

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0098001

Owner: Ameren Missouri
Address: P.O. Box 66149, MC-602, St. Louis, MO 63166-6149

Continuing Authority: Same as above
Address: Same as above

Facility Name: Ameren Missouri-Callaway Energy Center
Facility Address: PO Box 620, Fulton, MO 65251

Legal Description: See Pages Two through Four (2-4)
UTM Coordinates: See Pages Two through Four (2-4)

Receiving Stream: See Pages Two through Four (2-4)
First Classified Stream and ID: See Pages Two through Four (2-4)
USGS Basin & Sub-watershed No.: (13000102-1605)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See Pages 2-4 for facility description. Ameren Missouri-Callaway Energy Center is a steam electrical generation plant primarily engaged in the generation of electricity for distribution and sale. The plant consists of one generating unit with a capability of 1,190 megawatts (MW). Annual production is 9.8-10.7 million MW-hours. This facility has twelve (12) permitted features. The Callaway Power Plant combined discharge line (Outfalls #001, #002, #016) has a cumulative daily average flow of 7.74 MGD and a daily maximum flow of 14.4 MGD. The facility is located in Callaway County. A certified operator not required for this facility. SIC # 4911

This permit authorizes only wastewater and stormwater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Sections 640.013, 621.250, and 644.051.6 of the Law.

July 1, 2015
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

June 30, 2020
Expiration Date

John Madros, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Outfall #001: Radwaste Treatment System - SIC #4911 (Piped to Missouri River)

This liquid radwaste system serves to collect, process, store, recycle and discharge treated waste water generated at Callaway. In addition, radioactive solids removed by this system are prepared for disposal and transported to a licensed off- site disposal facility.

The Boron Recycle System receives reactor coolant for the purpose of recovering the boric acid for reuse in the plant. Boric acid is used as a neutron absorber/moderator in the primary loop. The Liquid Radwaste System collects and processes floor and equipment drains from the containment, auxiliary building, fuel building and radwaste buildings during normal operation. The Laundry and Hot Shower system collects waste generated from washing radioactively contaminated protective gear and clothing and personnel decontamination shower wastewater. These wastes are then transferred to the liquid Radwaste system for treatment. The Secondary Liquid Waste system is used to process condensate demineralizer regeneration wastes and potentially radioactive liquid waste collected from the turbine building. The condensate demineralizer regeneration waste is divided into two waste streams; High TDS waste from the acid and caustic rinses used when chemically regenerating spent resin, and low TDS waste which results from the initial backflushing of unregenerated resin and the final rinsing of the regenerated resin to remove acid and caustic substances.

Steam Generator Blowdown is normally recycled back to the main condenser for reuse in the secondary cycle. Provisions also exist to discharge the treated blowdown via #001. The following wastewater treatment systems are used as required to treat this waste stream for recycle or discharge in compliance with NRC requirements and are also available as auxiliary or backup treatment systems to treat this discharge for compliance with NPDES permit limitations: Evaporation and/or Mixing and/or Filtration and/or Carbon Absorption and/or Ion Exchange and/or Neutralization and/or Reuse/Recycle of Treated Effluent. All processing in the Radwaste Treatment System is done on a batch basis except steam generator blowdown. After monitoring for radioactive content, release rates are controlled administratively to ensure the "as low as practicable" radioactive discharge criteria are met.

Design flow is 0.190 MGD

Daily average flow is 0.054 MGD.

UTM Coordinates: X= 606040; Y= 4291049

Legal Description: NE ¼, NE ¼, Sec. 14, T46N, R8W, Callaway

Receiving Stream: Missouri River (P)

First Classified Stream and ID: Missouri River (P) (00701)

USGS Basin & Sub-watershed No.: (10300102-1605)

Outfall #002: - Cooling Tower Blowdown (Piped to Missouri River)

This outfall consists of water from the Circulating Water System, the Service Water System, and the Essential Service Water (ESW) System. Blowdown from the cooling tower is necessary to maintain the dissolved solids concentration in the recirculating water system within acceptable operating limits. The ESW System is not routinely used, however water from the ESW System does mix with the other systems as it is periodically run to demonstrate operability. Additionally, the ESW System can be used to maintain proper freeboard in the ultimate heat sink pond (Outfall #017) by transferring water to the Service Water System.

Design flow is 14.4 MGD.

Daily average flow is 5.37 MGD.

UTM Coordinates: X= 606218; Y= 4291158

Legal Description: NW ¼, NW ¼, Sec. 13, T46N, R8W, Callaway

Receiving Stream: Missouri River (P)

First Classified Stream and ID: Missouri River (P) (00701)

USGS Basin & Sub-watershed No.: (10300102-1605)

Outfall #003: Water Treatment Plant Wastes (Piped to Missouri River)

Outfall #003 consists of supernatant from a wastewater treatment lagoon that treats wastewater to remove solids. The wastewater that is treated in the lagoon is mainly from the blowdown of accumulated river solids in the water treatment plant clarifiers. The sand and carbon filter backwash, oil water separator and demineralizer system wastewater is also routed to this treatment lagoon. The oil water separator flow consists of wastewater from some plant sumps as well as flow from an oil recovery well that is being used to remediate a historic on-site release. Outfall #003 is normally recycled by routing it back to the head of the water treatment plant, averaging 0.42 MGD.

Design flow is 1.645 MGD.

Daily average flow is 0.0 MGD.

UTM Coordinates: X= 606183; Y= 4289944

Legal Description: SW ¼, SW ¼, Sec. 13, T46N, R8W, Callaway

Receiving Stream: Missouri River (P)

First Classified Stream and ID: Missouri (P) (00701)

USGS Basin & Sub-watershed No.: (10300102-1606)

FACILITY DESCRIPTION (continued):

Outfall #004: Demineralizer System Wastes was rerouted to Outfall #003, removed prior to the 1996 permit renewal.

Outfall #007 – 3 Cell Flow Through Lagoon (Piped to Missouri River)

This outfall consists of a 3-cell lagoon designed to receive only sanitary, on-site cafeteria, and laboratory waste from the plant. Sludge will be stored in the lagoon. The effluent will then be discharged to a constructed wetland. The monitoring location will be at the third treatment cell. Outfall #007 is normally recycled by routing it to the water treatment plant headworks, averaging 0.025 MGD.

Design flow is 0.040 MGD.

Design Population Equivalent is 400.

Daily average flow is 0.0 MGD.

UTM Coordinates: X= 606400; Y=4290125

Legal Description: SW ¼, SW ¼, Sec. 13, T46N, R8W, Callaway

Receiving Stream: Missouri River (P)

First Classified Stream and ID: Missouri (P) (00701)

USGS Basin & Sub-watershed No.: (10300102-1606)

Outfall #009: Intake Heater Blowdown (Located right on Missouri River)

The river intake structure contains two recirculating electric heaters which are used to prevent ice formation on the intake bar screens during the winter months. Outfall #009 consists of discharges from the infrequent blowdown or drainage of these boilers.

Design flow is 0.006 MGD.

Daily average flow 0 MGD.

UTM Coordinates: X=609694; Y=4284633

Legal Description: NW ¼, NW ¼, Sec. 5, T45N, R7W, Callaway

Receiving Stream: Missouri River (P)

First Classified Stream and ID: Missouri River (P) (00701)

USGS Basin & Sub-watershed No.: (10300102-1606)

Outfalls #010, #011, #012, #014 and #015 - Stormwater Runoff

Once in 10 year rainfall event is 38.5 MGD.

Average rainfall event is 0.7 MGD.

"Non-process" discharges that will be discharged to stormwater ponds include three intermittent sources. Two sources are the quarterly testing of the fire protection drains and the infrequent draining of the demineralized water storage tank. The third source is the pumping of manholes, transformer and tank containments at the plant.

Outfall #010:

Stormwater settling pond drains 108 acres, 16.2 acres of which is impervious surface. Drainage area includes the cooling water chemical control building, the quality control building, the former Unit #2 excavation and the area of the plant west of the radwaste system. The pond has a retention time greater than 24 hours.

Design flow is 4.6 MGD

Daily average flow is dependent on precipitation.

UTM Coordinates: X=606515; Y= 4291869

Legal Description: SW ¼, SW ¼, Sec. 12, T46N, R8W, Callaway

Receiving Stream: Tributary to Logan Creek (U)

First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)

USGS Basin & Sub-watershed No.: (10300102-1605)

Outfall #011:

Stormwater settling pond drains 425 acres, 8.5 acres of which is impervious surface. Drainage area includes the water treatment plant, radwaste building, operation support facility, demineralizer portable water building and the circulating and service water pumphouse. The pond has retention time of less than 24 hours.

Design storm flow is 19.7 MGD

Daily average flow is dependent on precipitation.

UTM Coordinates: X= 607139; Y= 4291930

Legal Description: NW ¼, SE ¼, Sec. 12, T46N, R8W, Callaway

Receiving Stream: Tributary to Logan Creek

First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)

USGS Basin & Sub-watershed No.: (10300102-1605)

FACILITY DESCRIPTION (continued):

Outfall #012:

Stormwater settling pond drains 87 acres, 22 acres of which is impervious surface. Drainage area includes most of the plant area including the parking lots, office buildings, switch yards, the turbine building, the outage maintenance building, and the Stores I building. The pond has retention time of less than 24 hours.

Design storm flow is 6.6 MGD

Daily average flow is dependent on precipitation. .

UTM Coordinates: X= 605884; Y= 4290257

Legal Description: NE ¼, SE ¼, Sec. 14, T46N, R8W, Callaway

Receiving Stream: Tributary to Mud Creek

First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)

USGS Basin & Sub-watershed No.: (10300102-1606)

Outfall #013: terminated in 2009 permit renewal.

Outfall #014:

Stormwater settling pond drains 100 acres, 4 acres of which is impervious surface. Drainage area includes half of the construction parking lot, the Stores II building, and the maintenance shop annex. The pond has a retention time less than 24 hours.

Daily average flow is dependent on precipitation.

Design storm flow is 4.8 MGD

UTM Coordinates: X=605569; Y= 4291979

Legal Description: NW ¼, SE ¼, Sec. 11, T46N, R8W, Callaway

Receiving Stream: Tributary to Cow Branch

First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)

USGS Basin & Sub-watershed No.: (10300102-1504)

Outfall #015: Stormwater

Stormwater settling pond drains 60 acres, 0.6 acres of which is impervious surface. Drainage area includes paved roadways. The pond has a retention time greater than 24 hours.

Design storm flow is 2.8 MGD

Daily average flow is dependent on precipitation.

UTM Coordinates: X= 605918; Y= 4292305

Legal Description: SE ¼, NE ¼, Sec. 11, T46N, R8W, Callaway

Receiving Stream: Tributary to Cow Branch

First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)

USGS Basin & Sub-watershed No.: (10300102-1504)

Outfall #016: Cooling Tower Bypass (piped to Missouri River)

This outfall consists of clarified river water and wastewater that has been recycled through the water treatment plant. It is used to moderate flow through the water treatment plant and to provide carrier water in the discharge line when discharging from Outfall #001.

Design flow is 14.4 MGD.

Daily average flow is 2.32 MGD.

Legal Description: NW ¼, NW ¼, Sec. 13, T46N, R8W, Callaway

UTM Coordinates: X=606175; Y= 4290754

Receiving Stream: Missouri River (P)

First Classified Stream and ID: Missouri (P) (00701)

USGS Basin & Sub-watershed No.: (10300102-1605)

Outfall #017 - Ultimate Heat Sink

No Discharge. The Ultimate Heat Sink is a cooling pond that can provide cooling water to various plant systems during other than normal conditions. Outfall #017 is the overflow from the Ultimate Heat Sink to Stormwater Retention Basin at Outfall #011.

UTM Coordinates: X=606094; Y= 4290861

Legal Description: SE ¼, NE ¼, Sec. 14, T46N, R8W, Callaway

Receiving Stream: Tributary to Logan Creek

First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)

USGS Basin & Sub-watershed No.: (10300102-280004)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001	TABLE A-1 Radwaste System. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	Page Number 5 of 13
		Permit Number. MO-0098001

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **July 1, 2015** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/daily per each batch	each batch total
Boron, Total Recoverable	mg/L	*		*	once/daily per each batch	grab
Total Suspended Solids	mg/L	45		30	once/daily per each batch	grab
pH	SU	**		**	once/daily per each batch	grab
Total Residual Chlorine (Note 1)	µg/L	200		104	once/month	grab
Temperature	°F	*			once/month	grab
Biochemical Oxygen Demand ₅	mg/L	*		*	once/quarter***	grab
Oil & Grease	mg/L	15		10	once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2015. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units

*** See table below for quarterly sampling.

Minimum Sampling Requirements			
Quarter	Months	Effluent Parameters	Report is Due
First	January, February, March	Sample at least once during any month of the quarter	April 28 th
Second	April, May, June	Sample at least once during any month of the quarter	July 28 th
Third	July, August, September	Sample at least once during any month of the quarter	October 28 th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28 th

Note 1: This permit contains a Total Residual Chlorine (TRC) limit. This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

OUTFALL #002	TABLE A-2. Cooling Tower Blowdown FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS			Page Number 6 of 13		
				Permit Number. MO-0098001		
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on July 1, 2015 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/day	24 hr. total
Temperature	°F	*		*	once/day	grab
Total Suspended Solids	mg/L	*		*	once/week	grab
Total Dissolved Solids	mg/L	*		*	once/week	grab
Total Residual Chlorine (Note 1)	µg/L	200		104	once/week	grab
Total Phosphorus	mg/L	*		*	once/ quarter***	grab
Total Nitrogen	mg/L	*		*	once/ quarter***	grab
Oil & Grease	mg/L	15		10	once/quarter***	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2015</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
pH (Note 2)	SU	**		**	continuous	24 hr
pH – Minutes of Exceedances (Note 2)	minutes			446	continuous	continuous
pH – Number of excursions (Note 2)	Count			0	continuous	continuous
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2015</u> .						
Chronic Whole Effluent Toxicity (Note 3)	TUc	*			once/year	24 hr. composite
<u>WET TEST</u> REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2016</u> .						

* Monitoring requirement only

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units

*** See table on page 8 for quarterly sampling.

Note 1: This permit contains a Total Residual Chlorine (TRC) limit. This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

Note 2: Callaway Energy Center has continuous pH measurement on Outfalls #002. With continuous pH measurement, the facility may have excursions of the set pH for up to 446 minutes (7 hours, 26 minutes) in any calendar month; however the facility is not allowed to have an individual excursion lasting more than 60 minutes. The permittee shall report the minutes per month exceeding the pH effluent limits, along with number of excursions lasting sixty (60) minutes or more.

Note 3: Outfall #002 is not required to conduct regularly scheduled Whole Effluent Toxicity (WET) Testing. However, in the event that the permittee determines they must use a molluscicide or other toxic pollutants to remove organisms from intake structures, WET testing shall be conducted once per year, when the molluscicide is used, as described in the terms and conditions for WET testing for Outfall #002, which is contained in Special Condition #21, on page 12 of 13 of this operating permit

OUTFALLS #003-#015	TABLE A-3. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	Page Number 7 of 13
		Permit Number. MO-0098001

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **July 1, 2015** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #003-Water Treatment Plant						
Flow	gpd	*		*	once/month when discharging	24 hr. total
Total Suspended Solids	mg/L	100		30	once/ month when discharging	grab
Oil & Grease	mg/L	15		10	once/ month when discharging	grab
Total Residual Chlorine (Note 1)	µg/L	200		104	once/ month when discharging	grab
pH	SU	**		**	once/ month when discharging	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2015.

Outfall #007-Sanitary Waste						
Flow	gpd	*		*	once/quarter when discharging***	24 hr. total
Biochemical Oxygen Demand ⁵	mg/L		65	45	once/quarter when discharging***	grab
Total Suspended Solids	mg/L		110	70	once/quarter when discharging***	grab
Ammonia as N	mg/L	*		*	once/quarter when discharging***	grab
Oil & Grease	mg/L	15		10	once/quarter when discharging***	grab
E. Coli	#colonies/ 100mL	*		*	once/quarter when discharging***	grab
pH	SU	**		**	once/quarter when discharging***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE OCTOBER 28, 2015.

Outfall #009-Intake Heater Blowdown						
Flow	gpd	*		*	once/week when discharging	24 hr. total
Total Suspended Solids	mg/L	100		30	once/week when discharging	grab
Oil & Grease	mg/L	15		10	once/week when discharging	grab
pH	SU	**		**	once/week when discharging	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE OCTOBER 28, 2015.

Outfalls #010-#012, #014 and #015- Stormwater, See Special Condition #13-#15

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY, THE FIRST REPORT IS DUE OCTOBER 28, 2015. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

* Monitoring requirement only

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

*** See table on Page 8 for quarterly sampling.

OUTFALL #016	TABLE A-4. Cooling Tower Bypass FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	Page Number 8 of 13
		Permit Number. MO-0098001

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **Effective Date** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/quarter***	24 hr. total
Total Suspended Solids	mg/L	100		30	once/quarter***	grab
Total Residual Chlorine (Note 1)	µg/L	200		104	once/quarter***	grab
Temperature	°F	*		*	once/quarter***	grab
Oil & Grease	mg/L	15		10	once/quarter***	grab
Total Phosphorus	mg/L	*		*	once/quarter***	grab
Total Nitrogen	mg/L	*		*	once/quarter***	grab
pH	SU	**		**	once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2015. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

Chronic Whole Effluent Toxicity	TUc	*			once/year	24 hr. composite
---------------------------------	-----	---	--	--	-----------	------------------

WET TEST REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2016.

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

*** See table below for quarterly sampling.

Minimum Sampling Requirements			
Quarter	Months	Effluent Parameters	Report is Due
First	January, February, March	Sample at least once during any month of the quarter	April 28 th
Second	April, May, June	Sample at least once during any month of the quarter	July 28 th
Third	July, August, September	Sample at least once during any month of the quarter	October 28 th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28 th

Note 1: This permit contains a Total Residual Chlorine (TRC) limit. This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached PART I standard conditions dated AUGUST 1, 2014, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. In issuing this permit, the Missouri Clean Water Commission and the Missouri Department of Natural Resources has not determined whether or not the radioactive discharges from this plant will affect waters of the state. Radioactive discharges are the responsibility of the Nuclear Regulatory Commission, and any discharges of these constituents will be under their regulation
2. Outfall #017: There shall be no discharge from this outfall to waters of the State of Missouri.
3. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
4. All outfalls must be clearly marked in the field
5. Water Quality Standards
 - (a) To the extent required by law, discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
6. Changes in Discharges of Toxic Substances
The permittee shall notify the Director as soon as it knows or has reason to believe:
 - (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established by the Director in accordance with 40 CFR 122.44(f).
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

C. SPECIAL CONDITIONS (continued)

7. Report as no-discharge when a discharge does not occur during the report period
8. There shall be no discharge of polychlorinated biphenyl (PCB) compounds such as those commonly used for transformer fluid
9. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
10. 40 CFR 125.98(b)(1): "Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act."
11. Reporting of Non-Detects
 - (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
 - (b) The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
 - (c) The permittee shall provide the "Non-Detect" sample result using the less than sign and the minimum detection limit (e.g. <10).
 - (d) The permittee shall use one-half of the detection limit for the non-detect result when calculating and reporting monthly averages.
 - (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
12. Any pesticide discharge from any point source shall comply with the requirements of Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 136 ET. SEQ.) and the use of such pesticides shall be in a manner consistent with its label.
13. The permittee shall implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must be prepared and implemented upon permit issuance. The SWPPP must be kept on-site and should not be sent to the department unless specifically requested. The SWPPP must be reviewed and updated, if needed, every five (5) years or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document: Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators. (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009. The SWPPP must include the following:
 - (a) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter stormwater. The BMPs at the facility should be designed to meet this value during rainfall event up to the 10 year, 24 hour rain event.
 - (b) The SWPPP must include a schedule for quarterly site inspections and brief written reports. The inspection report must include precipitation information for the entire period since last inspection, as well as observations and evaluations of BMP effectiveness. Deficiencies must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report, including photographs. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to department personnel upon request.
 - (c) A provision for designating an individual to be responsible for environmental matters.
 - (d) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of the department.
14. Permittee shall adhere to the following minimum Best Management Practices (BMPs):
 - (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
 - (b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
 - (c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
 - (d) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.

C. SPECIAL CONDITIONS (continued)

15. Best Management Practices (continued)

- (e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.
- (f) Ensure that adequate provisions are provided to prevent surface water intrusion into the storage basin, to divert stormwater runoff around the storage basin, and to protect embankments from erosion.

16. Outfalls #010-#012, #014, and #015: This permit stipulates pollutant benchmarks applicable to Callaway Energy Center stormwater discharges. The benchmarks do not constitute direct numeric effluent limitations; therefore, a benchmark exceedance alone is not a permit violation. Benchmark monitoring and visual inspections shall be used to determine the overall effectiveness of SWPPP and to assist in knowing when additional corrective action may be necessary to protect water quality. Benchmark sampling must occur a minimum of quarterly sampling. Sampling results must be submitted by April 28th, July 28th, October 28th, and January 28th for the preceding quarterly sampling event. Visual inspections must occur at a minimum of quarterly, as designated in Special Condition #13.

Outfalls #010-012, #014, #015		
Parameter	Units	Daily Maximum Benchmark
Settleable Solids	mL/L/hr	1.5
Chemical Oxygen Demand	mg/L	90
pH	SU	6.5-9.0
Oil and Grease	mg/L	10

Any time a benchmark exceedance occurs a Corrective Action Report (CAR) must be completed. A CAR is a document that records the efforts undertaken by the facility to improve BMPs to meet benchmarks in future samples. CARs must be retained with the SWPPP and available to the department upon request. If the efforts taken by the facility are not sufficient and subsequent exceedances of a benchmark occur, the facility must contact the department if a benchmark value cannot be achieved. Failure to take corrective action to address a benchmark exceedance and failure to make measureable progress towards achieving the benchmarks is a permit violation.

- 17. Before releasing water that has accumulated in secondary containment areas containing petroleum products, it must be examined for hydrocarbon odor and presence of a sheen. On-site remediation may take place prior to testing. If the presence of hydrocarbons is indicated, this water must be tested for Total Petroleum Hydrocarbons (TPH). The analytical method for testing TPH must comply with EPA approved testing methods listed in [40 CFR 136] and the water must be tested prior to release to ensure compliance with water quality standards. If the concentration for TPH exceeds 10mg/L, the water shall be taken to a WWTP for treatment, treated onsite, or hauled off by a contract hauler.
- 18. Release of a hazardous substance must be reported to the department in accordance with 10 CSR 24-3.010. A record of each reportable spill shall be retained with the SWPPP and made available to the department upon request.
- 19. The department may also require sampling and reporting as a result of illegal discharges, compliance issues, complaint investigations, or evidence of off-site impacts from activities from this facility. If such an action is needed, the department will specify in writing the sampling requirement, including such information as location and extent. It is a violation of this permit to fail to comply with said written notification to sample.
- 20. Substances, regulated by federal law under the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), that are transported, stored, or used for maintenance, cleaning or repair, shall be managed according to RCRA and CERCLA. Ameren is exempt from Clean Water Act, Section 311, reporting for sodium hydroxide, sodium hypochlorite, sulfuric acid and hydrazine as per 40 CFR 117.12.
- 21. 316(b) Cooling Water Intake Structure
 - (a) Ameren is required to continue operating the makeup water intake structure per the Department's approval dated April 15, 1987. Ameren has installed closed cycle cooling at the Callaway Energy Center, which per 40 CFR 122. 21(r), represents the best technology available.
 - (b) Ameren shall continue to operate in a manner that minimizes impingement and entrainment.
 - (c) Ameren is required to submit the following studies under 40 CFR 122.21(r);
 - (1) Source Water Physical Data Report, 40 CFR 122.21(r)(2);
 - (2) Cooling Water Intake Structure Data Report, 40 CFR 122.21(r)(3);
 - (3) Source Water Baseline Biological Characterization Data Report, 40 CFR 122.21(r)(4);
 - (4) Cooling Water System Data Report, 40 CFR 122.21(r)(5); and
 - (5) Operational Status, 40 CFR 122.21(r)(8)

C. SPECIAL CONDITIONS (continued)

21. 316(b) Cooling Water Intake Structure (continued)

- (d) Ameren shall submit annual status reports by February 28 each year, detailing the progress of the previous year in completing the required studies.
- (e) Six months prior to permit expiration, Ameren shall submit their application for 316(b) detailing the results of the studies listed above.
- (f) This permit may be reopened and modified, or alternatively revoked and reissued to: incorporate new or modified requirements applicable to existing cooling water intake structures under Section 316(b) of the Clean Water Act. In the event that, it is necessary for this permit to be reopened and modified, or alternatively revoked and reissued, permittee shall comply with any such new or modified requirements or standards applicable to existing cooling water intake structures under 316(b) of the Clean Water Act.

22. Chronic Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF CHRONIC WET TESTING FOR THIS PERMIT					
OUTFALL	AEC	Chronic Toxic Unit (TU _c)	FREQUENCY	SAMPLE TYPE	MONTH
002	10%	*	Unscheduled	24 hr. composite	any
016	10%	*	once/year	24 hr. composite	any

*Monitoring only

Dilution Series						
100%	50%	25%	10%	5%	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

a) Freshwater Species and Test Methods

- i. Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the fourth edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002; Table IA, 40 CFR Part 136). The permittee shall concurrently conduct 7-day, static, renewal toxicity tests with the following vertebrate species:
 - The fathead minnow, *Pimephales promelas* (Survival and Growth Test Method 1000.0).
 And the following invertebrate species:
 - The daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
- ii. Chemical and physical analysis of an upstream control sample and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping. Where upstream receiving water is not available, synthetic laboratory control water may be used.
- iii. Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
- iv. Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analysis performed upon any other effluent concentration.
- v. All chemical analyses shall be performed and results shall be recorded in the appropriate field of the report form. The parameters for chemical analysis include, but are not limited to Temperature (°C), pH (SU), Conductivity (µMohs), Dissolved Oxygen (mg/L), Total Residual Chlorine (mg/L), Un-ionized Ammonia (mg/L), Total Alkalinity (mg/L), and Total Hardness (mg/L).

b) Reporting of Chronic Toxicity Monitoring Results

- i. WET test results shall be submitted by eDMR, or to the Northeast Regional Office, with the permittee's Discharge Monitoring Reports by January, 28, 2016. The submittal shall include:
 1. A full laboratory report for all toxicity testing.
 2. Copies of chain-of-custody forms.
 3. The WET form provided by the Department upon permit issuance.
- ii. The report must include a quantification of chronic toxic units (TU_c = 100/IC₂₅) reported according to the *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* chapter on report preparation and test review. The 25 percent Inhibition Effect Concentration (IC₂₅) is the toxic or effluent concentration that would cause 25 percent reduction in mean young per female or in growth for the test populations.

C. SPECIAL CONDITIONS (continued)

23. WET Test (continued)

c) Permit Reopener for Chronic Toxicity

In accordance with 40 CFR Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions to address chronic toxicity in the effluent or receiving waterbody, as a result of the discharge; or to implement new, revised, or newly interpreted water quality standards applicable to chronic toxicity.

24. Callaway shall sample the following discharges from liquid radwaste discharge, along with the surface water and drinking water supply. The results of the monitoring programs shall be reported to the Department by supplying a copy of the Annual Radiological Environmental Operating Report per Technical Specification 5.6.2 and the Annual Radioactive Effluent Release Report per Technical Specification 5.6.3 by May 1, at the same time the reports are supplied to NRC. All data information shall be available for inspection during normal working hours. The permittee shall conduct the following radiological monitoring:

a) Liquid Radwaste discharge, surface water and drinking water supply:

Location	Frequency	Sample Type	Parameters
Radwaste –batch releases	prior to each batch	representative grab sample of each batch discharge	Batch: tritium, I-131, gamma isotopic;
Radwaste-steam generator blowdown	once per day when discharging	grab	Quarterly composite of each batch: Sr-89, Sr-90, and Fe-55
Upstream of the Discharge Line	once/month	grab	tritium , gamma isotopic
Downstream of the Discharge Line at Portland, MO	daily with monthly composite analysis	composite	tritium , gamma isotopic

b) Aquatic biota - semiannual sampling of the edible flesh of up to five commercially or recreationally important species of fish of sufficient quantity to yield a sufficient sample. Samples are to be taken at the locations specified upstream of the discharge line and downstream of the discharge line at Portland, MO. Samples are to be analyzed by gamma isotopic analysis. Catfish need not be included in sample.

c) Bottom Sediment - semiannual samples of bottom sediment from the locations specified in upstream of the discharge line and downstream of the discharge line at Portland, MO. Samples are to be analyzed by gamma isotopic analysis.

d) The Department of Natural Resources of the State of Missouri, and any other state agency or officer designated in the State's emergency response plan or any other plan to protect its citizens from radioactive liquid discharge from the Callaway Energy Center, shall receive within one hour of the event, notice of any unplanned or uncontrolled liquid radioactive release in accordance with 10 CFR 50.72(a) and notification of reportable events per 10 CFR 20.2203 that involve off-site releases of liquid radioactive material.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL & MODIFICATION
OF
MO-0098001
AMEREN MISSOURI-CALLAWAY ENERGY CENTER

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below. A factsheet is not an enforceable part of an operating permit. Major ; Industrial Facility ; and/or permit with widespread public interest .

Part I – Facility Information

Facility Type: Industrial Facility SIC Code(s): 4911-Electrical Power Generation

FACILITY DESCRIPTION:

Ameren Missouri-Callaway Energy Center is a steam electrical generation plant primarily engaged in the generation of electricity for distribution and sale. The Callaway Energy Center is located outside Fulton, MO on 7,200 acres. Ameren leases 6,300 acres of their property to the Missouri Department of Conservation for the Reform Conservation Area. The plant consists of one generating unit with a capability of 1,190 megawatts (MW). Annual production is 9.8-10.7 million MW-hours. This facility has twelve (12) permitted features. Callaway Energy Center pipes its major discharges back to the Missouri River, approximately 5 miles away. Intake water comes from the Missouri River at Mile Marker 115.4.

Callaway Energy Center uses a Standardized Nuclear Unit Power Plant System (SNUPPS), using a Westinghouse four-loop pressurized water reactor and a Alstom turbine-generator. The plant went fully operational in 1984. For more information is available on the NRC webpages: <http://www.nrc.gov/info-finder/reactor/call.html> and <http://www.nrc.gov/reactors/operating/ops-experience/tritium/plant-specific-reports/call.html>.

Other environmental permits and identification numbers associated with Ameren Callaway Energy Center, include:

- Title V Air Permit from the department's Air Pollution Control Program (2907100003)
- Small Quantity Hazardous Waste Generator under the department's Hazardous Waste Program (MOD079933198)
- Major Water User from the department's Water Resources Program (071300005)
- EPA identifies Ameren Callaway with the following EPA ID number: 110017986759
- NRC facility operating license NPF-30

The Annual Environmental Operating Report and the Annual Radiological Effluent Report for the calendar year 2014 were submitted April 30, 2015. Appendix C provides a summary of the 2014 Annual Environmental Operating Report related to water and sediment. Appendix D provides information on the leak discovered on August 1, 2014 at manhole 86-2, the following site investigation, and the remediation steps taken to repair the line, including injecting hydrophobic foam and building a line to bypass the manhole. Additional monitoring were installed and monitored to verify that the leak was stopped. The Annual Reports are available on the NRC webpage: <http://www.nrc.gov/reactors/operating/ops-experience/tritium/plant-specific-reports/call.html>.

Chemical Usage at the Plant

In the renewal application, Ameren provided a list of chemicals used or stored onsite at Callaway. All chemicals used are covered under the facility's Spill Prevention Control and Countermeasures Plan. Ameren may want to incorporate the spill plan in with the stormwater prevention pollution plan, to ensure accidental releases are controlled onsite.

Outfall #001: Radwaste Treatment System

The Radwaste Treatment System is made up of five subsystems: the boron recycle system, the liquid radwaste system, the laundry and hot shower system, secondary liquid waste, and the steam generator blowdown.

- This liquid radwaste system serves to collect, process, store, recycle and discharge treated waste water generated at Callaway. In addition, radioactive solids removed by this system are prepared for disposal and transported to a licensed off-site disposal facility. Five general sub-systems can be defined as described below.
 - The Boron Recycle System receives reactor coolant for the purpose of recovering the boric acid for reuse in the plant. Boric acid is used as a neutron absorber/moderator in the primary loop.
 - The Liquid Radwaste System collects and processes floor and equipment drains from the containment, auxiliary building, fuel building and radwaste buildings during normal operation.
 - The Laundry and Hot Shower system collects waste generated from washing radioactively contaminated protective gear and clothing and personnel decontamination shower wastewater. These wastes are then transferred to the liquid Radwaste system for treatment.
 - The Secondary Liquid Waste system is used to process condensate demineralizer regeneration wastes and potentially radioactive liquid waste collected from the turbine building. The condensate demineralizer regeneration waste is divided into two waste streams; High TDS waste from the acid and caustic rinses used when chemically regenerating spent resin, and low TDS waste which results from the initial backflushing of unregenerated resin and the final rinsing of the regenerated resin to remove acid and caustic.
 - Steam Generator Blowdown is normally recycled back to the main condenser for reuse in the secondary cycle. Provisions also exist to discharge the treated blowdown via #001.

The following wastewater treatment systems are used as required to treat this waste stream for recycle or discharge in compliance with NRC requirements and are also available as auxiliary or backup treatment systems to treat this discharge for compliance with NPDES permit limitations: Evaporation and/or Mixing and/or Filtration and/or Carbon Absorption and/or Ion Exchange and/or Neutralization and/or Reuse/Recycle of Treated Effluent. All processing in the Radwaste Treatment System is done on a batch basis except steam generator blowdown. After monitoring for radioactive content, release rates are controlled administratively to ensure the "as low as practicable" radioactive discharge criteria are met.

The radwaste system is designed for flexibility to achieve Nuclear Regulatory Commission (NRC) limits. Actual treatment of any batch of wastewater is determined by

1. the level of radiological contamination and corresponding NRC mandated discharge criteria;
2. NPDES permit discharge limits;
3. the most effective waste treatment scheme that will give the smallest volume of solid radwaste;
4. overall wastestream management; and
5. the need, feasibility, and economics of recycle vs. discharge.

Outfall #002: Cooling Tower

The cooling tower at Callaway is 553 feet tall and 430 feet in diameter at the base. It cools approximately 585,000 gallons of water per minute when the facility is operating at full power. About 11,000 gallons per minute are lost from the top through evaporation, and up to another 5,000 gallons per minute are sent to the Missouri River as "blowdown" to flush suspended solids from the cooling tower basin. This water is replaced with water from the river, which is five miles south of the energy center. The cooling tower basin holds 11 million gallons of water. The water is 12 feet deep under the tower, and 20 feet deep at the intake to the circulating water pumps that pump the water through the energy center. The temperature of the water going into the tower is 125 °Fahrenheit. The tower cools it to 95°Fahrenheit.

Outfall #003: Water Treatment Plant

The water treatment plant clarifies Missouri River water for cooling tower makeup and other plant cooling water systems. Sludge from the clarification process is routed through the sedimentation lagoon for solids removal. There are currently 4 sedimentation basins, the fourth being built in 2000 (CP-MO26-3351). Callaway submitted a construction permit application December 2014 to build two more sedimentation basins (CP0001707). Demineralizer system waste streams and oil/water separator discharges are routed to the sedimentation basin. The demineralizer waste stream includes wastes generated from resin regeneration; sand and carbon filter backwash, floor drains, and wet well overflows. Outfall #003 has been recycled for more than 15 years by routing back to the head of the water treatment plant. Previously the permit required scheduled monitoring; however this permit reduces the monitoring frequency to when discharging.

With the construction of the new sedimentation lagoons, the discharge and design flow is not expected to increase. The construction permit was issued June 6, 2015. Appendix A-2 contains the flow diagram for Outfall #003.

Outfall #007: Sanitary Wastewater Treatment Plant

Primary treatment is provided in a three-cell lagoon. Effluent from the final cell is routed (in series) through two wetland basins. Both the wetlands are constructed wetlands created by conversion of filled water treatment plant sedimentation lagoons. The connection from the discharge of the final wetland to the pump station was made in conjunction with the construction of the sedimentation lagoon #4. Outfall #007 is recycled back to the head of the water treatment plant. Previously the permit required scheduled monitoring; however this permit reduces the monitoring frequency to when discharging.

Outfall #009: Intake Heater Blowdown

The river intake structure contains two recirculating electric heaters, which are used to prevent ice formation on the intake bar screens during winter months. This discharge would contain blowdown or drainage from the boilers; however the boilers are currently in dry lay- up and no discharge has occurred in the last 25 years. This outfall remains permitted in case, the boilers were reinstalled, in use, and would need to discharge. Previously the permit required scheduled monitoring; however this permit reduces the monitoring frequency to when discharging.

Outfall #010: Stormwater

Stormwater settling pond drains 108 acres, 16.2 acres of which is impervious surface. Drainage area includes the cooling water chemical control building, the quality control building, the former Unit #2 excavation and the area of the plant west of the radwaste system. The pond has a retention time greater than 24 hours. Non-stormwater sources of intermittent water include fire water testing, manhole discharges, eye wash showers, and Unit 2 basin discharge.

Outfall #011: Stormwater

Stormwater settling pond drains 425 acres, 8.5 acres of which is impervious surface. Drainage area includes the water treatment plant, radwaste building, operation support facility, demineralizer portable water building and the circulating and service water pump house. The pond has retention time of less than 24 hours. Non-stormwater sources of intermittent water include fire water test and tank drain, manhole discharges, eye wash/shower, and air conditioning condensate

Outfall #012: Stormwater

Stormwater settling pond drains 87 acres, 22 acres of which is impervious surface. Drainage area includes most of the plant area including the parking lots, office buildings, switch yards, the turbine building, the outage maintenance building, and the Stores I building. The pond has retention time of less than 24 hours. Non-stormwater sources intermittent water include fire water test, manhole discharges, eye wash/shower, and air conditioning condensate

Outfall #014: Stormwater

Stormwater settling pond drains 100 acres, 4 acres of which is impervious surface. Drainage area includes half of the construction parking lot, the Stores II building, and the maintenance shop annex. The pond has a retention time less than 24 hours. Non-stormwater sources intermittent water include fire water test and air conditioning condensate

Outfall #015: Stormwater

Stormwater settling pond drains 60 acres, 0.6 acres of which is impervious surface. Drainage area includes paved roadways. The pond has a retention time greater than 24 hours.

Outfall #016: Cooling Tower Bypass

Outfall #016 consists of clarified river water and wastewater that has been recycled through the water treatment plant. It is used to moderate flow through the water treatment plant and to provide carrier water in the discharge line, if necessary. Outfall #016 is an intermittent discharge.

Outfall #017: Ultimate Heat Sink

The ultimate heat sink is a cooling pond that has the ability to provide cooling water to various plant systems during other than normal conditions. This is operated as a no-discharge outfall.

Application Date: 08/06/2013 CP Application date: 12/16/2014 Expiration Date: 02/14/2014
 Last Inspection: 06/06/2013

FACILITY COMMENTS:

- Outfalls #001, #002, and #016 are the only process outfalls that discharge; however Ameren wants to main the ability to discharge through Outfalls #003, #007, and #009 if the need exists.
- Outfalls #003 and #007 are recycled back through the plant. Since Outfalls #003 and #007 are operated with recycle, monitoring was changed from scheduled to unscheduled, as a discharge is not expected to occur, the same was done with Outfall #009.
- Oil and grease effluent limits were reduced to match the Water Quality Standard of 10 mg/L monthly average. In review of the discharge monitoring reports, the facility could already meet the 10 mg/L limit.
- Total residual chlorine effluent limits were converted to micrograms per liter reporting rather than milligrams per liter reporting.
- As Outfall #002 as continuous pH monitoring, the provisions from 40 CFR 401.17 which allows for 446 minutes per calendar month of exceedance of pH values, with no individual excursion lasting more than 60 minutes.
- Total Nitrogen and Total Phosphorus monitoring were added on Outfalls #002 and #016 per 10 CSR 20-7.015(9)(D)7.
- Stormwater monitoring was reestablished in this permit cycle to verify the best management practices are in place and are being maintained.
- For Outfall #001, BOD₅ and Oil and Grease monitoring was reduced to quarterly.
- For Outfall #002, Oil and Grease monitoring was reduced to quarterly.
- There was a typo present in the public notice for BOD₅, monitoring only remains on Outfall #001 for BOD₅.
- Total Residual Chlorine for Outfall #001's monitoring frequency was adjusted to once/week.
- Total Nitrogen and Total Phosphorus monitoring frequency was reduced from the draft operating permit to the minimum required in 10 CSR 20-7.015 on a quarterly basis.
- Special condition #16 was updated from the public notice version to reflect that the testing for petroleum products needs to occur on secondary containment containing petroleum products.

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (MGD)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.190	Ion exchange/Multimedia filtration/Neutralization	Radwaste system
#002	14.40	Disinfection/Cooling water	Cooling tower blowdown
#003	1.6	Sedimentation/Filtration/Separation and Recycle	Water Treatment Plant
#007	0.05	Equivalent to Secondary/Recycle	Domestic Wastewater
#009	0.006	Neutralization/No discharge	Process wastewater
#010*	4.6	BMPS, settling	Stormwater, incidental process wastewater
#011*	19.7	BMPS, settling	Stormwater, incidental process wastewater
#012*	6.6	BMPS, settling	Stormwater, incidental process wastewater
#014*	4.8	BMPS, settling	Stormwater, incidental process wastewater
#015*	2.8	BMPS, settling	Stormwater, incidental process wastewater
#016	14.4	Recycle cooling water	Cooling tower bypass
#017	0	No discharge	Cooling water

*Based on 1 in 10 year storm event, is the design flow

Part II – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri’s Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall’s Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section. As per Missouri’s Stormwater Regulations [10 CSR 20.6.200(6)(B)2.], the department shall establish effluent limits as necessary to protect waters of the state. Effluent limitations for stormwater are established using best professional judgment based on the category and designated uses of the receiving stream.

Missouri or Mississippi River:
 All Other Waters:

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream’s beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO CLASSIFIED SEGMENT	12-DIGIT HUC
#001	Missouri River (piped)	P	701	AQL, IRR, IND, LWW, SCR, WBC(B)	0.0	10300102-1605
#002	Missouri River (piped)	P	701	AQL, IRR, IND, LWW, SCR, WBC(B)	0.0	10300102-1605
#003	Missouri River (piped)	P	701	AQL, IRR, IND, LWW, SCR, WBC(B)	0.0	10300102-1606
#007	Missouri River (piped)	P	701	AQL, IRR, IND, LWW, SCR, WBC(B)	0.0	10300102-1606
#009	Missouri River (piped)	P	701	AQL, IRR, IND, LWW, SCR, WBC(B)	0.0	10300102-1606
#010	Tributary to Logan Creek	--	--	General Criteria	0.58	10300102-1605
#011	Tributary to Logan Creek	C	3906	AQL, HHP, IRR, IND, LWW, SCR, WBC(B)	0.0	10300102-1605
#012	Tributary to Mud Creek	C	3906	AQL, HHP, IRR, IND, LWW, SCR, WBC(B)	0.0	10300102-1606
#014	Tributary to Cow Branch	--	--	General Criteria	0.95	10300102-1504
#015	Tributary to Cow Branch	--	3906	AQL, HHP, IRR, IND, LWW, SCR, WBC(B)	0.0	10300102-1504
#016	Missouri River (piped)	P	701	AQL, IRR, IND, LWW, SCR, WBC(B)	0.0	10300102-1605
#017	Tributary to Logan Creek	--	--	General Criteria	1.3	10300102-1605

AQL= Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; C= Streams may cease flow in dry periods; CDF= Cold Water Fishery; CLF= Cool Water Fishery; DWS= Drinking Water Supply; E= Ephemeral stream; GEN= General; GRW = Groundwater; HUC= Hydrologic Unit Code; IND= Industrial; IRR=Irrigation; LWW= Livestock & Wildlife Watering; P= Permanent; SCR= Secondary Contact Recreation; W= Wetland; WBC= Whole Body Contact Recreation; WBID= Water Body Identification Number

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Tributary to Mud Creek, Cow Branch, Logan Creek	0.0	0.0	0.0
8-20-13 MUDD V1.0 (C) (3906)	0.0	0.0	0.1
Missouri River (P)(701) ⁱ	23,337	39,013	55,169

ⁱ Missouri River flow data is from USGS Gaging station 06934500 at Hermann, MO from July 1969 to July 2012.

MIXING CONSIDERATIONS - THERMAL:

Missouri's Water Quality Standards [10 CSR 20-7.031(4)(A)1.], specifically state that mixing considerations for toxics do not apply to thermal mixing considerations and that thermal mixing considerations are located in [10 CSR 20-7.031(4)(D)6.], which states thermal mixing considerations are limited to 25% of the cross-sectional area or volume of a river, unless a biological survey performed in accordance with 316(a) of the Clean Water Act indicate no significant adverse effect on aquatic life. For the purpose of mixing considerations, the department typically uses the 25% of the daily flow vs cross-sectional area.

RECEIVING STREAM MONITORING REQUIREMENTS:

Ameren conducts upstream and downstream monitoring as part of their environmental commitments with NRC. Information from that sampling is available in the annual report, <http://www.nrc.gov/reactors/operating/ops-experience/tritium/plant-specific-reports/call.html>.

Part III – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

- ✓ Not Applicable; The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- ✓ Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
 - ✓ The Department determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
 - This permit changes WET test requirements for the facility from a pass/fail requirement to monitoring only for toxic units. This change reflects modifications to Missouri's Effluent Regulation found at 10 CSR 20-7.015. 40 CFR 122.44(d)(1)(ii) requires the department to establish effluent limitations that control all parameters which have the reasonable potential to cause or contribute to an excursion above any state water quality standard, including state narrative criteria. The previous permit imposed a pass/fail limitation without collecting sufficient data to make a reasonable potential determination. Furthermore, the method of reporting associated with the pass/fail limitation prevented the department from gathering the data necessary to make a finding of reasonable potential. Implementation of the toxic unit monitoring requirement will allow the department to implement numeric acute criteria in accordance with water quality standards established under §303 of the CWA.
 - The WET test from Outfall #001 was removed as there is not a lab available to perform the tests.
 - Outfalls #003 and #007 are operated in recycle mode and have not discharged in 15 years, monitoring was changed from scheduled to unscheduled, as a discharge is not expected to occur, the same was done with Outfall #009 as it has not discharged in 25 years.
 - Monitoring for oil and grease was reduced from monthly to quarterly, as a review of the previous permit discharge monitoring reports do not show an exceedance of the effluent limits.
 - Biochemical Oxygen Demand₅ was reduced from monthly to quarterly on Outfall #001, as Outfall #001 does not receive sanitary waste and the BOD₅ effluent limit is an indicator parameter. The facility is in compliance with their BOD₅ effluent limit.

ANTIDegradation:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

- ✓ Renewal no degradation proposed and no further review necessary.

BIOSOLIDS & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: <http://extension.missouri.edu/main/DisplayCategory.aspx?C=74>, items WQ422 through WQ449.

✓ Not applicable; this condition is not applicable to the permittee for this facility.

COMPLIANCE AND ENFORCEMENT:

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

✓ Not Applicable. The permittee/facility is not currently under Water Protection Program enforcement action.

EFFLUENT LIMIT GUIDELINES:

The EPA in 2009 published the "Steam Electrical Power Generating Point Source Category: Final Detailed Study Report (2009 Final Report). The 2009 Final Report summarizes data collected and analyzed from the EPA to review discharges from steam electrical power generating industry and to determine whether the current effluent guidelines (ELGs) for this industry should be revised. From the 2009 Final Report, it determined a need existed to update the current effluent regulations specific to Steam Electrical Power Generating Point Sources [40 CFR Part 423]. The 2009 Final Report also concluded the last updated version of this 1982 regulation does not adequately address the pollutants being discharged and have not kept pace with changes that have occurred in the power industry. EPA published a draft rule for comment in 2013. EPA has indicated that it will be finalized in September 2015. Nuclear power is included in the Steam Electric Guidelines.

GROUNDWATER MONITORING:

Groundwater Monitoring at Callaway is covered by the NRC environmental plans. Callaway Energy Center has an extensive groundwater monitoring network meeting the industry standard established in NEI 07-07 (<http://pbadupws.nrc.gov/docs/ML0726/ML072610036.pdf>). Numerous groundwater monitoring wells have been installed surrounding the power block area to monitor plant systems, structures, and components. In addition, monitoring wells have been installed along the discharge line and elsewhere on the plant site. Monitoring wells are sampled for tritium and gamma emitters. Additional information about groundwater monitoring at Callaway is available online through the NRC: <http://pbadupws.nrc.gov/docs/ML0831/ML083150703.pdf>

INDUSTRIAL SLUDGE:

Industrial sludge is solids, semi-solids, or liquid residue generated during the treatment of industrial process wastewater in a treatment works; including but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and a material derived from industrial sludge.

✓ Not applicable. This condition is not applicable to the permittee for this facility.

INTAKE WATER CREDITS (NET LIMITS):

In accordance with federal regulation 40 CFR 122.45(g), technology-based effluent limitations or standards shall be adjusted to reflect credit for pollutants in the discharge's intake water if: (1) The applicable effluent limitations and standards contained in 40 CFR subchapter N specifically provide that they shall be applied on a net basis; or (2) The discharger demonstrates that the control system it proposes or uses to meet applicable technology-based limitations and standards would, if properly installed and operated, meet the limitations and standards in the absence of pollutants in the intake waters. Additionally, credit for conventional pollutants such as biochemical oxygen demand (BOD) or total suspended solids (TSS) should not be granted unless the permittee demonstrates that the constituents of the generic measure in the effluent are substantially similar to the constituents of the generic measure in the intake water or unless appropriate additional limits are placed on process water pollutants either at the outfall or elsewhere. Credit shall be granted only to the extent necessary to meet the applicable limitation or standard, up to a maximum value equal to the influent value. Additional monitoring may be necessary to determine eligibility for credits and compliance with permit limits. Credit (Net Limits) do not apply to the discharge of raw water clarifier sludge generated from the treatment of intake water.

As Ameren continuously recycles water through the system, net intake credits are not being granted for Outfalls #001, #002, #003, #009 or #016. Based on the reasonable potential analysis completed for Outfalls #001, #002, #009 and #016, the facility can meet the effluent previously established without intake credit provisions.

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard. In accordance with [40 CFR Part 122.44(d)(1)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

✓ Applicable; a RPA was conducted on appropriate parameters. Please see **APPENDIX B: RPA RESULTS**.

Pollutants Typically Associated with Steam Electric Industry Discharges:

The US EPA *Interim Detailed Study Report for the Steam Electric Power Generating Point Source Category* (Interim Study Report) utilized available data to characterize the waste streams discharged from steam electric facilities, as well as the technologies and practices used in the industry to control the discharge of waste pollutants (Chapter 5). EPA is expected to release the updated effluent limit guidelines in September 2015. Table 5-1 in Chapter 5 of the Interim Study Report presents an overview of the types of pollutants associated with the various waste streams. Pollutants contained in the Interim Study Report are based on data previously collected by the EPA during the 1974 and 1982 rulemaking efforts and the 1996 Preliminary Data Summary, data provided by the Utility Water Act Group (UWAG) and Electric Power Research Institute (EPRI). Staff has reviewed the Discharge Monitoring Reports (DMRs) and renewal applications Forms C and D for each of the outfalls in this operating permit. Effluent testing results contained in Forms C and D for each outfall were compared directly with pollutants associated with the various waste streams for each of the outfalls. Below is the list of pollutants based on process waste streams for this facility:

- Cooling Water: Once-Through or Cooling Tower Blowdown (Outfall #002):
Chlorine, Iron, Copper, Nickel, Aluminum, Boron, Chlorinated Organic Compounds, Suspended Solids, Brominated Compounds, and Non-Oxidizing Biocides.
- Other Low-Volume Waste Streams (Outfall #001):
Suspended Solids, Dissolved Solids, Oil and Grease, Phosphates, Surfactants, Acidity, Methylene Chloride, Phthalates, BOD₅, COD, Fecal Coliform and Nitrates.

For the above pollutants, staff drafting this operating permit only compared the applicable pollutants based on Missouri's Water Quality Standards criteria and designated uses. For any of the outfalls that do not contain one of the process wastewater types above, these pollutants were not reviewed (i.e., Outfalls #003 - #015). For stormwater outfalls, staff drafting this permit and fact sheet reviewed the applicable Forms 2F, C, and D to determine if effluent from this outfall had potential to exceed Missouri's Water Quality Standards for the tested pollutants.

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

✓ Not Applicable. This permit does not contain a SOC.

SPILL REPORTING:

Per 10 CSR 24-3.010, any emergency involving a hazardous substance must be reported to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the Noncompliance Reporting requirement found in Standard Conditions Part I.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when:
(1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

- ✓ Applicable. A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.
 - Quarterly monitoring and sampling for benchmarks is established in this permit, as under the previous permit cycle, stormwater monitoring was waived. The quarterly monitoring frequency is developed based on the guidance provided in the Department's Permit Writer's Manual Section 6.1.2 (http://dnr.mo.gov/env/wpp/permits/manual/docs/6_1_2.pdf) and in EPA's multi-sector general permit- Sections 6.1 and 6.2 (pgs. 32-35). (http://water.epa.gov/polwaste/npdes/stormwater/upload/msgp2013_proposedpermit1-7.pdf)
 - The stormwater retention ponds have been in operation more than 35 years and often times there is little or no discharge during a normal storm event, which is why this permit does not contain the condition to sample within 60 minutes of the first flush or the start of a precipitation event. The stormwater ponds have the capacity to have retention times of 24 hours or longer.

303(d) List:

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

- ✓ Not Applicable. This facility does not discharge to a 303(d) listed stream.

Total Maximum Daily Load (TMDL):

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation.

- ✓ Not Applicable. This facility is not associated with a TMDL.

VARIANCE:

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

- ✓ Not applicable. This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

- ✓ Applicable. Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where

- C = downstream concentration
- C_s = upstream concentration
- Q_s = upstream flow
- C_e = effluent concentration
- Q_e = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID). Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Number of Samples “n”: In accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance which should be, at a minimum, targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of “n” for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for “n” must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is “n = 4” at a minimum. For Total Ammonia as Nitrogen, “n = 30” is used.

WLA MODELING:

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

✓ Not applicable. A WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARDS:

Per [10 CSR 20-7.031(4)], general criteria shall be applicable to all waters of the state at all times including mixing zones.

Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

✓ Applicable. Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(4)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc...); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by ALL facilities meeting the following criteria:

- Facility is a designated Major.
- Facility continuously or routinely exceeds its design flow.
- Facility (whether primarily domestic or industrial) that alters its production process throughout the year.
- Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
- Facility has Water Quality-Based Effluent Limitations for toxic substances (other than NH₃)
- Facility is a municipality with a Design Flow ≥ 22,500 gpd.

- The WET Test from #001 was removed as there is not a Lab available to conduct the test on the radiological test.
- Outfalls #002 is an unscheduled chronic WET test if they must use a molluscicide or other toxic pollutants to remove organisms from intake structures, WET testing shall be conducted once per year.
- Outfall #016 is an annual chronic WET test.
- WET test were not established for Outfalls #003, #007, and #009 because these outfalls do not discharge as they are operated in recycle mode.

TEMPERATURE LIMITS CONSIDERATIONS:

Missouri’s Water Quality Standards establish Temperature Criteria that provide several forms of protection from the impacts of heat energy on receiving water bodies. The purpose of the Temperature Limit Guidance is to provide an approach to help both permit writers and the public understand the Temperature Criteria and how temperature requirements are applied in Missouri State Operating Permits. This approach assumes that the receiving water consumes 100% of the heat energy being discharged. At any time the permittee has reason to believe the discharge may exceed their permit temperature limits or if the permittee does exceed their permit limit, the permittee may determine it necessary to take action that may include, but is not limited to, seeking a 316(a) Variance, a Mixing Zone Study, or conducting a “Heat Model”. If action is taken by the permittee that warrants a modification to this operating permit, then the permittee will need to submit an application for a permit modification. Submitting an application for permit modification does not guarantee approval of said action and does not directly indicate that the result of said action will be implemented into an operating permit. A Quality Assurance Project Plan (QAPP) must be submitted for any alternative compliance approach.

Temperature monitoring is being maintained. The results of the RPA demonstrate that there is not reasonable potential to exceed the water quality standard of 90°F or the $\pm\Delta$ 5°F at the edge of the mixing zone. However as this is an energy center discharging water at 95°F prior to mixing, the monitoring requirement will remain at monthly monitoring.

316(b) COOLING WATER INTAKE STRUCTURE

Section 316(b) of the Clean Water Act (CWA) applies to new or existing facilities operating a cooling water intake structure (CWIS). Section 316(b) requires that location, design, construction, and capacity of CWISs reflect the best technology available (BTA) for minimizing adverse environmental impacts (AEI). Under current regulations, existing facilities are subject to section 316(b) conditions that reflect BTA for minimizing AEI on a case-by-case, best professional judgment (BPJ) basis.

The Environmental Protection Agency's (EPA) Phase II Section 316(b) Existing Facilities Rule was remanded to the EPA in *Riverkeeper, Inc. et al. v EPA* 475 F.3d 83 (2d Cir. 2007). The Federal Water Pollution Control Act Amendments of 1972 require cooling water intake structures to reflect the best technology available for minimizing adverse environmental impact. Best technology available must consider intake design, location, construction, and capacity. The EPA has finalized the 316(b) standards and they became effective on October 16, 2014 (<http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/index.cfm>).

The Ameren Callaway Energy Center is located about 5 miles inland with an intake structure on the north bank of the Missouri River at river mile 115.4. The intake structure is located directly on the bank of the river. The main channel and greatest depth of the river occur immediately offshore of the intake structure.

When Callaway was built, the technology decision in 1984 established closed cycle cooling as the best achievable technology. In the 2014, final 316(b) rules, closed cycle cooling is still the best achievable technology. Closed cycle cooling is considered the best achievable technology under the new 316(b) regulations, 40 CFR 122.21(r) and 40 CFR 125. The original CWA 316b demonstration for Callaway Energy Center was approved by the department by letter dated August 1987 as "Best Technology Available". The report concluded that the estimated annual number of fish lost to impingement had no impact on the ecology or sport fishery of the Missouri River with respect to maintaining a balanced indigenous fish population. One reason for the relatively low numbers of fish collected during the impingement study was the location of the plant intake structure (i.e., main channel). This area of the river is characterized by swift current and shifting substratum which does not present a preferred fish habitat. Because the intake structure equipment and operation are essentially the same as the time of the original study, Ameren believes that the conclusion of the 1984 and 1986 studies are still valid.

EPA consulted with the US Fish and Wildlife Service and the National Marine Fisheries Service under the Endangered Species Act rules. The Services concluded that the new 316(b) rule is not likely to jeopardize the continued existence of listed species or result in adverse modification of designated critical habitat. However the Services added a number of conditions to the final rule. The rules requires that facilities identify all Federally-listed threatened and endangered species and designated critical habitat that are present in the zone of influence area of the intake. This condition includes all listed species not just fish and shellfish. Additional control measures, monitoring and reporting requirements may be established to minimize incidental take. The Services will have 60 days to review and comment on measures related to listed species and critical habitat.

This operating permit contain language indicating that the permit may be reopened and modified, or alternatively revoked and reissued to: incorporate new or modified requirements applicable to existing cooling water intake structures under Section 316(b) of the Clean Water Act consistent with any standard established pursuant to section 1311 or section 1316 of 33 USC 1326. In the event that, it is necessary for this permit to be reopened and modified, or alternatively revoked and reissued, permittee shall comply with any such new or modified requirements or standards applicable to existing cooling water intake structures under 316(b) of the Clean Water Act.

To meet the 316(b) requirements, Ameren will be required to conduct some of the studies required under 40 CFR 122.21(r). As the intake is less than 125 MGD, the entrainment decision is a best professional judgment decision not requiring all the studies. For impingement, Callaway has already installed one of the approved technologies, cooling towers. With the installed cooling towers, that is one of the approved methods for showing compliance with the Impingement Mortality requirements in 40 CFR 122.21(r).

As part of the request for NRC license renewal under the Environmental Impact Section, Ameren agreed to conduct impingement and entrainment studies at Callaway for the 2015 and 2016. As a result of those studies, along with the other studies required with 316(b), if recommendations are made for operational changes that are in compliance with the NRC regulations, they will be incorporated upon permit renewal. Ameren Missouri will perform a one-year pallid sturgeon entrainment and impingement study for the Callaway Plant Unit 1 closed-cycle make-up water intake structure. The impingement study will consist of a once-per-week sample over a 52 consecutive week period. The sample will be obtained from the traveling screen wash trough of the plant closed cycle make-up water intake structure, with the exception that three (3) samples per week will be obtained and processed during May through July. Samples will be taken on nonconsecutive days, when possible.

The entrainment study will be conducted in either 2015 or 2016 and will require a weekly sample to be obtained and processed in the second half of March, April, August, and September. In addition, three (3) samples per week will be obtained and processed throughout May through July. Samples will be taken on non-consecutive days, when possible. Entrainment samples will be obtained and processed from the plant closed-cycle make-up water intake structure on the discharge side of the traveling screens. Missouri River sampling will be conducted at three (3) locations opposite the intake structure during four (4) consecutive weeks (during May or June based on monitored water temperatures favorable for sturgeon spawning) on a once per week basis. A final report documenting the study results will be provided by March 31, 2017. (submitted by Ameren to the NRC on October 31, 2014).

Based on the results of the studies being conducted as part of the NRC license renewal, and the additional studies required under 40 CFR 122.21(r), operational changes may be recommended at permit renewal for protection of aquatic life. However any changes may require the NRC's approval to ensure safety remains high.

Under 40 CFR 122.21, the required studies at Callaway will include:

- i. **Source Water Physical Data Report, 40 CFR 122.21(r)(2):** This report requires a description and scaled drawings showing the physical configuration of the water body, including areal dimensions, depths, and temperature regimes, identification and characterization of the source waterbody's hydrological and geomorphological features, estimate the intake's area of influence within the waterbody and locational maps.
- ii. **Cooling Water Intake Structure Data Report, 40 CFR 122.21(r)(3):** This report requires information on the design of the intake structure and its location in the water column. It includes design intake flows, daily hours of operation, number of days of the year in operation and seasonal changes, if applicable; a flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges, and engineering drawings of the cooling water intake structure.
- iii. **Source Water Baseline Biological Characterization Data Report, 40 CFR 122.21(r)(4):** This report characterizes the biological community in the vicinity of the cooling water intake structure.
- iv. **Cooling Water System Data Report, 40 CFR 122.21(r)(5):** This report provides information on the operation of the cooling water system including descriptions of reductions in water withdrawals, recycled water, proportion of the source waterbody withdrawn.
- v. **Operational Status, 40 CFR 122.21(r)(8):** The operational status report includes descriptions of each unit's operating status including age of the unit, capacity utilization for the previous 5 years, and any major upgrades completed within the last 15 years, including boiler replacement, condenser replacement, turbine replacement, fuel change.

Part IV – Effluent Limits Determination

Outfall #001 – Main Facility Outfall

Radwaste Treatment System - SIC #4911 (Piped to Missouri River) Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

#001 EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMIT	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	NO	SAME
BOD ₅	MG/L	1	*		*	NO	SAME
TSS	MG/L	1	45		30	NO	SAME
pH	SU	1	6-9		6-9	NO	SAME
CHLORINE, TOTAL RESIDUAL	µg/L	3	200		104	NO	0.2/0.1 MG/L
OIL & GREASE	MG/L	1,2	15		10	YES	20/15
BORON, TOTAL RECOVERABLE	MG/L	3	*		*	NO	SAME
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

*Monitoring only

Basis for Limitations Codes:

- | | |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law | 5. Water Quality Model |
| 2. Water Quality Standard (includes RPA) | 6. Best Professional Judgment |
| 3. Water Quality Based Effluent Limits | 7. TMDL or Permit in lieu of TMDL |
| 4. Antidegradation Review/Policy | 8. WET Test Policy |

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Boron, total recoverable.** Monitoring only retained from previous permit, and is deemed to be protective. While RP does not exist, Appendix B, as one of the main treatment systems uses boron, monitoring is maintained.
- **Biochemical Oxygen Demand (BOD₅).** Monitoring only. Effluent limitations have been retained from previous state operating permit, and is deemed to be protective.
- **Total Suspended Solids (TSS).** Limit from 40 CFR 423 .13. Effluent limitations have been retained from previous state operating permit and is deemed to be protective.
- **pH.** Limit from 40 CFR 423.13. Effluent limitations have been retained from previous state operating permit, and is deemed to be protective. Water Quality Standard is 6.5-9.0. Piped to the Missouri River, mixing considerations are applicable, thus pH is limited to 6.0-9.0 SU.
- **Total Residual Chlorine (TRC).** 40 CFR 423 governs this analyte in addition to the calculated limits below. Effluent limitations have been retained from previous state operating permit, and are deemed to be protective. Total Residual Chlorine water quality based effluent limits are 209 µg/L daily maximum, 104 µg/L monthly average. Since limits at 40 CFR 423 are more protective than the 209 µg/L, the limit of 200 µg/L will be used for daily.

- **Oil & Grease.** 40 CFR 423.13 sets the effluent limit at 20 mg/L maximum daily and 15 mg/L monthly average. The water quality standard is 10 mg/L monthly average. The water quality standard is more protective than the Effluent Limit Guideline. Average monthly effluent limit= 10 mg/L; maximum daily effluent limit = 15 mg/L.
- **Temperature.** Monitoring Only, change from °C to °F reporting. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream’s Water Quality. The facility employs best available control technology with cooling towers; which after the water leaves the cooling towers, the water is stored for reuse at the plant or for discharge back to the Missouri River. 10 CSR 20-7.031(4)(D)5 states that temperature shall not exceed the monthly temperature criteria established of 90°F at the edge of the mixing zone.
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit, except for BOD₅ and oil and grease monitoring was reduced to quarterly for Total Residual Chlorine. TRC monitoring frequency was reduced from daily to once/week.
- **Parameter Removed:** Whole Effluent Toxicity test removed from Outfall #001, as there are no labs available to conduct the test.

Outfall #002 - Cooling Tower Blowdown: (Piped to Missouri River)

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

#002 EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	NO	
TOTAL SUSPENDED SOLIDS	MG/L	1	*		*	NO	
TOTAL DISSOLVED SOLIDS	MG/L	1	*		*	NO	
PH	SU	1	6-9		6-9	NO	
PH	MIN	1			446	YES	***
PH	COUNT	1			0	YES	***
OIL & GREASE	MG/L	1,3	15		10	YES	20/15
TOTAL RESIDUAL CHLORINE	mg/L	2,3	200		104	NO	0.2/0.1 MG/L
TOTAL PHOSPHORUS	mg/L	2	*		*	YES	***
TOTAL NITROGEN	mg/L	2	*		*	YES	***
CHRONIC WET	TUc	8	*			YES	%SURVIVAL
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only

*** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

- | | |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law | 5. Water Quality Model |
| 2. Water Quality Standard (includes RPA) | 6. Best Professional Judgment |
| 3. Water Quality Based Effluent Limits | 7. TMDL or Permit in lieu of TMDL |
| 4. Antidegradation Review/Policy | 8. WET Test Policy |

OUTFALL #002 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Total Dissolved Solids.** Monitoring retained from previous permit, and is deemed to be protective.
- **Total Suspended Solids (TSS).** Monitoring only to determine contribution. Effluent limitations have been retained from previous state operating permit, and is deemed to be protective.
- **pH.** 6.0-9.0 SU. Technology based limits [10 CSR 20-7.015 and 40 CFR 423.13] are protective of the water quality standard [10 CSR 20-7.031(4)(E)], due to the buffering capacity of the mixing zone. Previous permit did not require the reporting of the minutes above the Water Quality Standard and the number of excursions lasting sixty or more minutes; the permittee shall report the minimum and maximum pH of the month.
- **pH- Minutes of Exceedance per month.** Callaway Energy Center has continuous pH measurement on Outfall 002. With continuous pH measurement, the facility may have excursions of the set pH for up to 446 minutes (7 hrs, 26 minutes) in any calendar month, per 40 CFR 401.17
- **pH- Number of Excursion of pH effluent limits.** Number of pH excursions lasting sixty or more minutes. Under 40 CFR 401.17, the permittee shall not have an individual pH excursion lasting sixty (60) minutes or more.
- **Oil & Grease.** 40 CFR 423.13 sets the effluent limit at 20 mg/L maximum daily and 15 mg/L monthly average. The water quality standard is 10 mg/L monthly average. The water quality standard is more protective than the Effluent Limit Guideline. Average monthly effluent limit= 10 mg/L; maximum daily effluent limit = 15 mg/L.
- **Temperature.** Monitoring Only. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. The facility employs best available control technology with cooling towers; which after the water leaves the cooling towers, the water is stored for reuse at the plant or for discharge back to the Missouri River. 10 CSR 20-7.031(4)(D)5 states that temperature shall not exceed the monthly temperature criteria established of 90°F at the edge of the mixing zone.
- **Total Residual Chlorine (TRC).** 40 CFR 423 governs this analyte in addition to the calculated limits below. Effluent limitations have been retained from previous state operating permit, and are deemed to be protective. Total Residual Chlorine water quality based effluent limits are 209 µg/L daily maximum, 104 µg/L monthly average. Since limits at 40 CFR 423 are more protective than the 209 µg/L, the limit of 200 µg/L will be used for daily.
- **Total Phosphorus and Total Nitrogen.** Monitoring required for facilities greater than 100,000 gpd design flow per 10 CSR 20-7.015(9)(D)7. Total Nitrogen shall be determined by testing for Total Kjeldahl Nitrogen (TKN) and Nitrate + Nitrite and reporting the sum of the results (reported as N). Nitrate + Nitrite can be analyzed together or separately.
- **Outfall #002 WET Tests.** Unscheduled WET test when molluscides are used. WET Testing schedules and intervals are established in accordance with the department's Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring*. It is recommended that WET testing be conducted during the period of lowest stream flow.
 - Chronic
 - No less than **ONCE/YEAR:**
 - Facility is designated as a Major facility or has a design flow \geq 1.0 MGD.
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit, except oil and grease monitoring was reduced to quarterly and total residual chlorine was reduced from daily to weekly monitoring. Total Phosphorus and Total Nitrogen shall have quarterly monitoring, as required in 10 CSR 20-7.015(9)(D)7.

Outfall #003 - Water Treatment Plant Wastes (Piped to the Missouri River)

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

#003 EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	NO	
TOTAL SUSPENDED SOLIDS	MG/L	1	100		30	NO	
PH	SU	1	6-9		6-9	NO	
OIL & GREASE (MG/L)	MG/L	1,3	15		10	YES	20/15
TOTAL RESIDUAL CHLORINE	µG/L	1,3	200		104	NO	0.2/0.1 MG/L
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

*- Monitoring only

Basis for Limitations Codes:

- | | |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law | 5. Water Quality Model |
| 2. Water Quality Standard (includes RPA) | 6. Best Professional Judgment |
| 3. Water Quality Based Effluent Limits | 7. TMDL or Permit in lieu of TMDL |
| 4. Antidegradation Review/Policy | 8. WET Test Policy |

OUTFALL #003 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Total Suspended Solids (TSS).** Limit from 423.13. Effluent limitations have been retained from previous state operating permit, and is deemed to be protective.
- **pH.** 6.0-9.0 SU. Technology based limits [10 CSR 20-7.015 and 40 CFR 423.13] are protective of the water quality standard [10 CSR 20-7.031(4)(E)], due to the buffering capacity of the mixing zone.
- **Total Residual Chlorine (TRC).** 40 CFR 423 governs this analyte in addition to the calculated limits below. Effluent limitations have been retained from previous state operating permit, and are deemed to be protective. Total Residual Chlorine water quality based effluent limits are 209 µg/L daily maximum, 104 µg/L monthly average. Since limits at 40 CFR 423 are more protective than the 209 µg/L, the limit of 200 µg/L will be used for daily.
- **Oil & Grease.** 40 CFR 423.13 sets the effluent limit at 20 mg/L maximum daily and 15 mg/L monthly average. The water quality standard is 10 mg/L monthly average. The water quality standard is more protective than the Effluent Limit Guideline. Average monthly effluent limit= 10 mg/L; maximum daily effluent limit = 15 mg/L.
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit but have been made an unscheduled event as a discharge has not occurred in over 15 years from the Outfall.

Outfall #007 – Sanitary Waste; 3 Cell Flow Through Lagoon (Piped to the Missouri River)

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

#007 EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	No	
BOD ₅	MG/L	1		65	45	No	
TSS	MG/L	1		110	70	No	
OIL AND GREASE	MG/L		15		10	No	
pH	SU	1	6.0-9.0		6.0-9.0	No	
AMMONIA AS N	MG/L	2	*		*	No	
ESCHERICHIA COLI FORM	**	1,2,3	Please see Escherichia Coli (E. coli) in the Derivation and Discussion Section below.			YES	***/FECAL COLIFORM
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.					No	

- * - Monitoring requirement only.
- ** - # of colonies/100mL; the Monthly Average for *E. coli* is a geometric mean.
- *** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

- | | |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law | 5. Water Quality Model |
| 2. Water Quality Standard (includes RPA) | 6. Best Professional Judgment |
| 3. Water Quality Based Effluent Limits | 7. TMDL or Permit in lieu of TMDL |
| 4. Antidegradation Review/Policy | 8. WET Test Policy |

OUTFALL #007– DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Biochemical Oxygen Demand (BOD₅).** 65 mg/L weekly effluent limit; 45 mg/L average monthly limit. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream’s Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **Total Suspended Solids (TSS).** 110 mg/L weekly average effluent limit; 70 mg/L average monthly limit. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream’s Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **pH.** 6.0-9.0 SU. Technology based limits [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(5)(E)], due to the buffering capacity of the mixing zone.
- **Total Ammonia Nitrogen.** Monitoring only. As the outfall #007 does not normally discharge, effluent limits are not being applied. However if the flows are not recycled and a discharge occurs, the facility must sample for ammonia as N concentrations. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C.] default pH 7.8 SU. Background total ammonia nitrogen = 0.03 mg/L in the Missouri River.
- **Escherichia coliform (E. coli).** Monitoring only. As the outfall #007 does not normally discharge, effluent limits are not being applied. However if the flows are not recycled and a discharge occurs, the facility must sample for E. Coli concentrations during the Recreational Season (April 1 – October 31), to protect Whole Body Contact Recreation (B) designated use of the receiving

stream, as per 10 CSR 20-7.031(4)(C). Design flow of the treatment plant is less than 100,000 gpd, thus the monitoring frequency is equal to the other parameters of once per quarter.

- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit but have been made an unscheduled event as a discharge has not occurred in over 15 years from the Outfall.

Outfall #009 - Intake Heater Blowdown: (Located on Missouri River)

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

#009 EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	NO	
TOTAL SUSPENDED SOLIDS	MG/L	1	100		30	NO	
PH	SU	1	6-9		6-9	NO	
OIL & GREASE	MG/L	1	15		10	YES	20/15
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only

Basis for Limitations Codes:

- | | |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law | 5. Water Quality Model |
| 2. Water Quality Standard (includes RPA) | 6. Best Professional Judgment |
| 3. Water Quality Based Effluent Limits | 7. TMDL or Permit in lieu of TMDL |
| 4. Antidegradation Review/Policy | 8. WET Test Policy |

OUTFALL #009 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Total Suspended Solids (TSS).** Limit from 423.13. Effluent limitations have been retained from previous state operating permit, and is deemed to be protective.
- **pH.** 6.0-9.0 SU. Technology based limits [10 CSR 20-7.015 and 40 CFR 423.13] are protective of the water quality standard [10 CSR 20-7.031(4)(E)], due to the buffering capacity of the mixing zone.
- **Oil & Grease.** 40 CFR 423.13 sets the effluent limit at 20 mg/L maximum daily and 15 mg/L monthly average. The water quality standard is 10 mg/L monthly average. The water quality standard is more protective than the Effluent Limit Guideline. Average monthly effluent limit= 10 mg/L; maximum daily effluent limit = 15 mg/L
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit but have been made an unscheduled event as a discharge has not occurred in over 15 years from the Outfall.

Outfalls #010, #011, #012, #014, #015 and #017 - Storm Water Runoff

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

Due to the nature of the discharges from these outfalls being stormwater, only a maximum daily limit (MDL) or monitoring requirement will be implemented for many of the parameters listed below. Stormwater events are acute occurrences that result in the greatest concentrations of pollutants being discharged in the first part of the runoff. This first flush can best be represented by a grab sample within the first hours of runoff. Additionally, stormwater events are highly variable. Recording an average monthly limit (AML) is not representative of the nature of these discharges. Many of these parameters that require just a MDL monitoring only requirement will now have a benchmark value associated with that monitoring only requirement. These benchmark values will be listed under the individual discussion and derivation of each parameter containing such a value.

BENCHMARKS

Benchmark concentrations are **not** effluent limitations; benchmark exceedance, therefore, is not a permit violation. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective action(s) may be necessary to comply with the technology based effluent limitations (TBEL). Failure to take corrective action is a violation of the permit. Benchmark exceedance alone is not a permit violation.

The benchmarks listed in the derivation discussion below have been determined to be feasible, affordable and protective of water quality. These benchmark values are consistent with other stormwater permits including the EPA MSGP. The facility will be required to monitor for all these parameters and if the benchmarks are exceeded at all in the following permit cycle, then the permit writer will use best professional judgment to determine if effluent limitations will be necessary to protect water quality.

Outfalls #010 - #012, #014, & #015 – Stormwater Runoff, benchmarks

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM BENCHMARK	MODIFIED	PREVIOUS PERMIT LIMITATIONS
COD	MG/L	1,2,3	90	YES	**
SETTLABLE SOLIDS	ML/L/HR	1,2,3	1.5	YES	**
pH	SU	1	6.5-9.0	YES	**
OIL & GREASE	MG/L	1	10	YES	**
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.				

- * - Monitoring requirement only.
- ** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

- | | |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law | 5. Water Quality Model |
| 2. Water Quality Standard (includes RPA) | 6. Best Professional Judgment |
| 3. Water Quality Based Effluent Limits | 7. TMDL or Permit in lieu of TMDL |
| 4. Antidegradation Review/Policy | 8. WET Test Policy |

OUTFALLS #010 - #012,#014, & #015 – DERIVATION AND DISCUSSION OF LIMITS:

- **Chemical Oxygen Demand (COD₅)**. Based on data submitted on Form 2F of the application for renewal, monitoring is included using the permit writer’s best professional judgment. There is no water quality standard for COD; however, increased oxygen demand may impact instream water quality. COD is also a valuable indicator parameter. COD monitoring allows the permittee to identify increases in COD that may indicate materials/chemicals coming into contact with stormwater that cause an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs. Additionally, a benchmark value will be implemented for this parameter. The benchmark value will be set at 90 mg/L. This value falls within the range of values implemented in other permits that have similar industrial activities and the Environmental Protection Agency’s (EPA’s) *Multi-Sector General Permit For Stormwater Discharges Associated With Industrial Activity* (MSGP).
- **Settleable Solids**. Effluent limitations from the previous state operating permit have been reassessed. Monitoring remains on the stormwater outfalls for settleable solids to ensure the best management practices are maintained and operating correctly. The permittee is required to develop and implement a SWPPP and adhere to Best Management Practices (BMPs).
- **pH**. pH shall be maintained within the range from 6.5 to 9.0 Standard Units (SU) as per 10 CSR 20-7.031(4)(E).
- **Oil & Grease**. 40 CFR 423.13 sets the effluent limit at 20 mg/L maximum daily and 15 mg/L monthly average. The water quality standard is 10 mg/L monthly average. The water quality standard is more protective than the Effluent Limit Guideline. Average monthly effluent limit= 10 mg/L; maximum daily effluent limit = 15 mg/L

- **Minimum Sampling and Reporting Frequency Requirements.** Sampling will be required at a minimum of quarterly to verify that the best management practices are being maintained and operated correctly. Reporting frequency will be quarterly. As its stormwater water, grab samples will be collected.

Outfall #016 - Cooling Tower Bypass (Piped to Missouri River)

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

#016 EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	NO	
TOTAL SUSPENDED SOLIDS	MG/L	1	100		30	NO	
PH	SU	1,3	6-9		6-9	NO	
OIL & GREASE	MG/L	1	15		10	YES	20/15
TOTAL RESIDUAL CHLORINE	µG/L	1,3	200		104	NO	0.2/0.104 MG/L
TOTAL PHOSPHORUS	MG/L	2	*		*	YES	**
TOTAL NITROGEN	MG/L	2	*		*	YES	**
TEMPERATURE	°F	1,3	*		*	NO	°C
CHRONIC WHOLE EFFLUENT TOXICITY	TUc	8	*			YES	%SURVIVAL
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only

** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

- | | |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law | 5. Water Quality Model |
| 2. Water Quality Standard (includes RPA) | 6. Best Professional Judgment |
| 3. Water Quality Based Effluent Limits | 7. TMDL or Permit in lieu of TMDL |
| 4. Antidegradation Review/Policy | 8. WET Test Policy |

OUTFALL #016 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Total Suspended Solids (TSS).** Limit from 423.13. Effluent limitations have been retained from previous state operating permit, and is deemed to be protective.
- **Total Residual Chlorine (TRC).** 40 CFR 423 governs this analyte in addition to the calculated limits below. Effluent limitations have been retained from previous state operating permit, and are deemed to be protective. Total Residual Chlorine water quality based effluent limits are 209 µg/L daily maximum, 104 µg/L monthly average. Since limits at 40 CFR 423 are more protective than the 209 µg/L, the limit of 200 µg/L will be used for daily.
- **pH.** 6.0-9.0 SU. Technology based limits [10 CSR 20-7.015 and 40 CFR 423.13] are protective of the water quality standard [10 CSR 20-7.031(4)(E)], due to the buffering capacity of the mixing zone.
- **Oil & Grease.** 40 CFR 423.13 sets the effluent limit at 20 mg/L maximum daily and 15 mg/L monthly average. The water quality standard is 10 mg/L monthly average. The water quality standard is more protective than the Effluent Limit Guideline. Average monthly effluent limit= 10 mg/L; maximum daily effluent limit = 15 mg/L.

- **Temperature.** Monitoring Only. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. The facility employs best available control technology with cooling towers; which after the water leaves the cooling towers, the water is stored for reuse at the plant or for discharge back to the Missouri River. 10 CSR 20-7.031(4)(D)5 states that temperature shall not exceed the monthly temperature criteria established of 90°F at the edge of the mixing zone.
- **Total Phosphorus and Total Nitrogen.** Monitoring required for facilities greater than 100,000 gpd design flow per 10 CSR 20-7.015(9)(D)7. Total Nitrogen shall be determined by testing for Total Kjeldahl Nitrogen (TKN) and Nitrate + Nitrite and reporting the sum of the results (reported as N). Nitrate + Nitrite can be analyzed together or separately.
- **WET Test, Chronic.** Monitoring requirement only; monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards. WET Testing schedules and intervals are established in accordance with the Department's Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring*. It is recommended that WET testing be conducted during the period of lowest stream flow.
 - **NO LESS THAN ONCE/YEAR:**
 - Industrial dischargers with toxic parameters in the discharge; that may alter production processes; or facilities which handle large quantities of toxic substances or substances that are toxic in large amounts shall conduct chronic WET test at a frequency annually. It will be reevaluated at permit renewal.
 $(22.32 \text{ cfs}) / ((15,250 \text{ cfs} \times 0.25 \times 0.1) + 22.32 \text{ cfs}) = 0.055 = 5.5\% = 10\%$.
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit, and is deemed to be protective. Total Phosphorus and Total Nitrogen shall have quarterly monitoring, as required in 10 CSR 20-7.015(9)(D)7.

Part V – Compliance with SWPPP Requirements to Achieve Benchmark Values

The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate pollution of stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged with during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values discussed in Part IV above. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure that will assist in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit. Additional information can be found in EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009].

In order to effectively control the pollutants being discharged in stormwater runoff, potential stormwater pollution sources must be identified. Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). The pollutants of concern that have already been identified in Part IV above can be used to assist in identifying potential sources. Once these potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed, employ the control measures that have been determined to be adequate to achieve the benchmark values discussed above. Conduct monitoring and inspections of the BMPs to ensure they are working properly. Re-evaluate any BMP that is not achieving compliance with permitting requirements. For example, if sample results from either outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established. If failures continue to occur and the permittee feels there are no practicable or cost-effective BMPs that will sufficiently reduce a pollutant concentration in the discharge to the benchmark values established in the permit, the permittee can submit a request to re-evaluate the benchmark values. This request needs to include a detailed explanation of why the facility is unable to comply with the permit conditions and unable to establish BMPs to achieve the benchmark values. Provide financial data of the company and documentation of cost associated with BMPs for review. This will allow the department to conduct a cost analysis on control measures and actions taken by the facility to determine cost-effectiveness of BMPs. The request should also include the SWPPP, which should contain adequate documentation of BMPs employed, failed BMPs, corrective actions, and all other required information. The request shall be submitted in the form of an operating permit modification application. Appropriate application forms can be found on the Department's website: <http://dnr.mo.gov/forms/index.html>.

Part VI – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PERMIT SYNCHRONIZATION:

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than three years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.

PUBLIC NOTICE:

The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit. For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

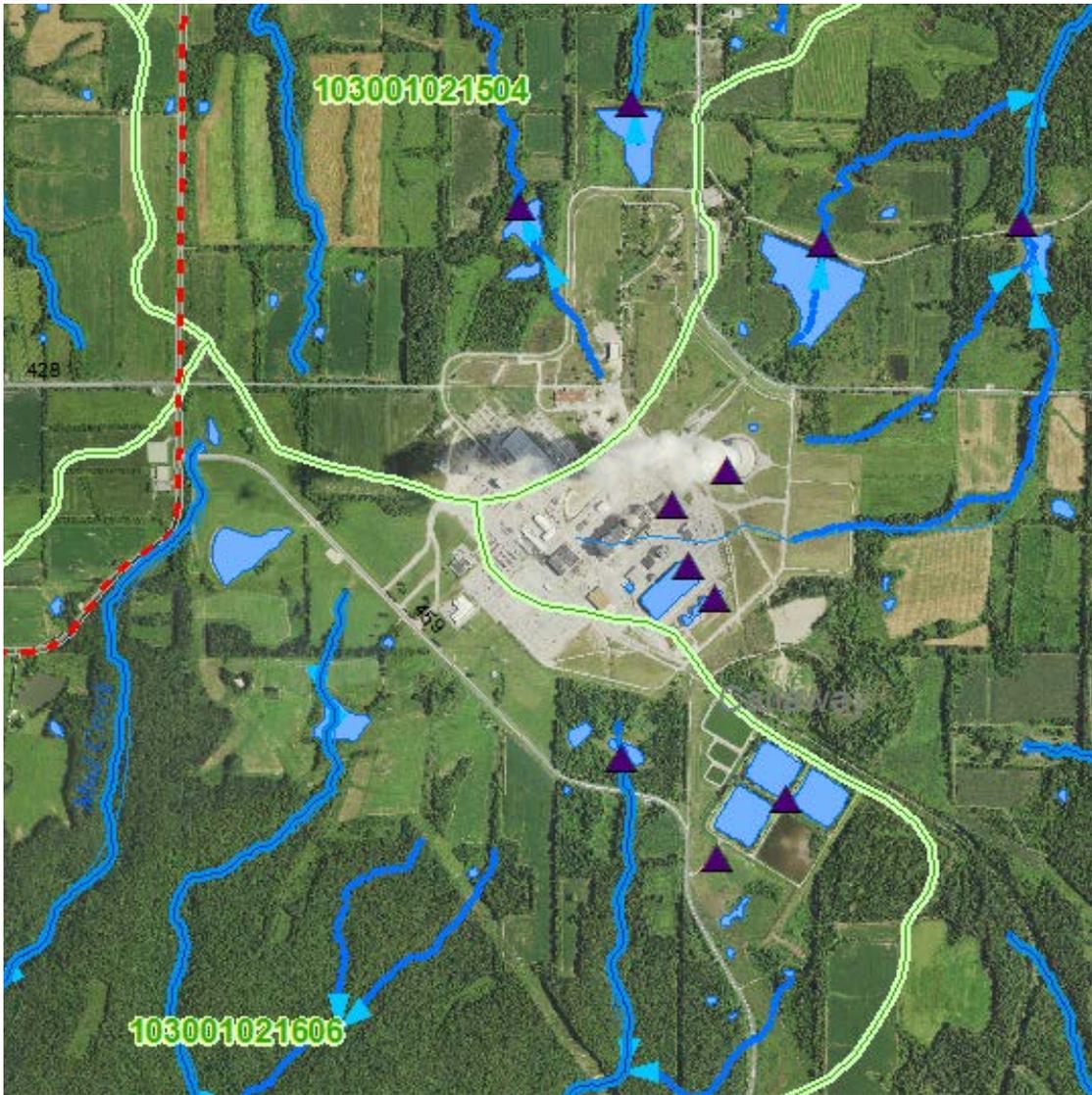
- The Public Notice period for this operating permit was from May 21, 2015 to June 21, 2015. No responses received.

DATE OF FACT SHEET: MARCH 11, 2015

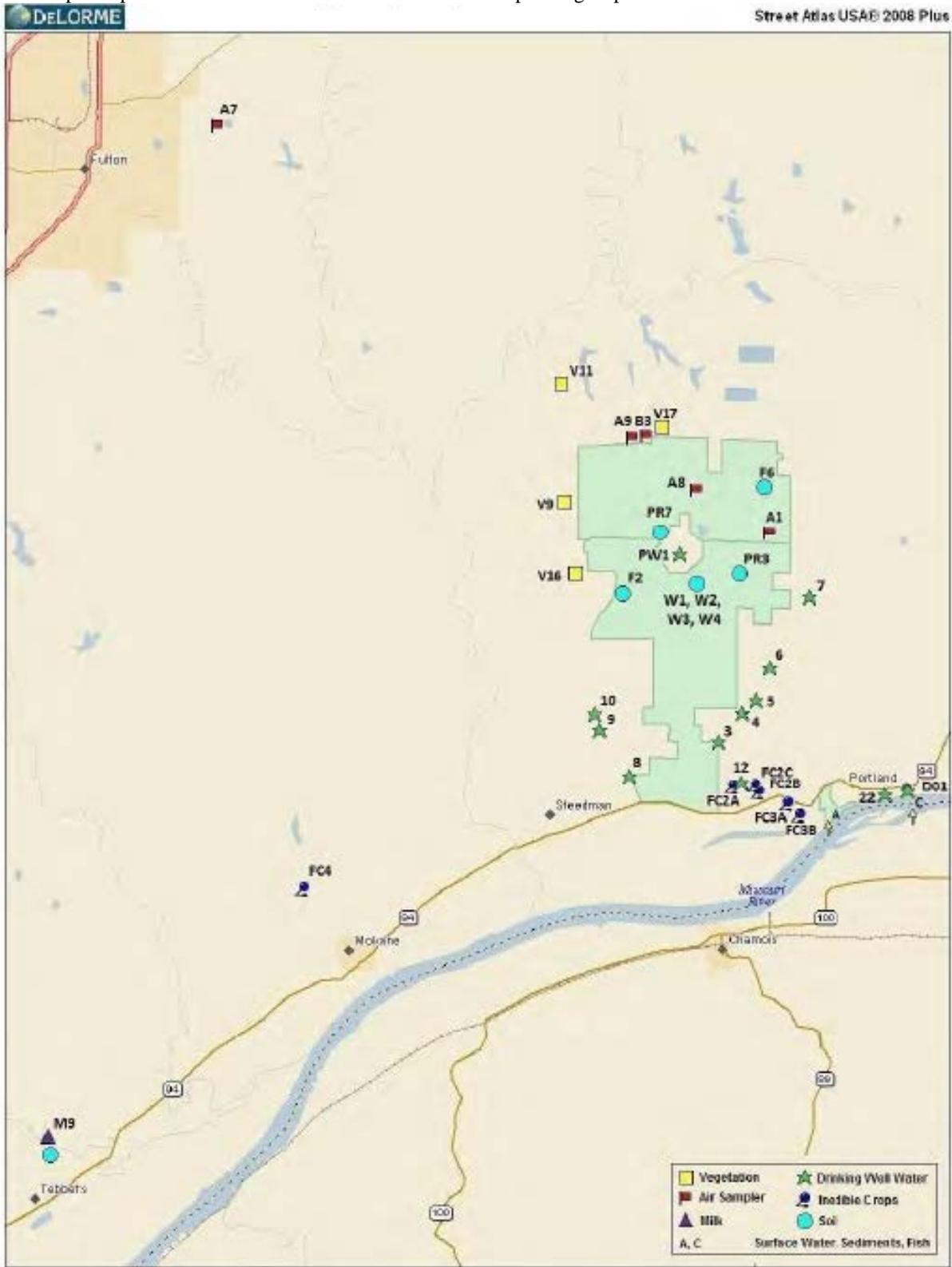
COMPLETED BY:

LEASUE MEYERS, EI
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
leasue.meyers@dnr.mo.gov

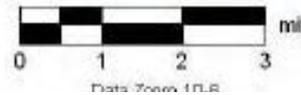
APPENDIX A: FACILITY DIAGRAM
APPENDIX A-1: FACILITY MAP



APPENDIX A-2: FACILITY MONITORING LOCATIONS FOR GROUNDWATER, SOIL, VEGETATION AND ATMOSPHERIC MONITORING.
This map was provided in the 2014 Annual Environmental Operating Report.



Data use subject to license.
© 2007 DeLorme, Street Atlas USA® 2008 Plus
www.delorme.com



APPENDIX B: RPA RESULTS

RPA RESULTS FOR OUTFALL #001:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Boron, Total Recoverable	2000	158.54	NA	NA	68	773/0.5	1.30	2.26	No
Chlorine, Total Residual	19	27.93	10	0.01	67	150/10	1.07	2.05	Yes

RPA RESULTS FOR OUTFALL #002:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Chlorine, Total Residual	19	27.93	10	0.01	68	280/20	0.57	1.54	Yes

RPA RESULTS FOR OUTFALL #016:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Chlorine, Total Residual	19	27.93	10	0.01	23	400/20	1.20	3.82	Yes

N/A – Not Applicable

* - Units are (µg/L) unless otherwise noted.

** - If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent.

*** - Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.

RWC – Receiving Water Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).

n – Is the number of samples.

MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.

RP – Reasonable Potential. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
2. **Monitoring Requirements.**
 - a. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
 - b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.
3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.
4. **Test Procedures.** The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is “sufficiently sensitive” when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.
5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee’s sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
 - a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
 - b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
 - a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
 - iii. The alteration or addition results in a significant change in the permittee’s sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
 - iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.
2. **Non-compliance Reporting.**
 - a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

- b. The following shall be included as information which must be reported within 24 hours under this paragraph.
 - i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - ii. Any upset which exceeds any effluent limitation in the permit.
 - iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
 - c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.
3. **Anticipated Noncompliance.** The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.
 4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.
 5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.
 6. **Other Information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.
 7. **Discharge Monitoring Reports.**
 - a. Monitoring results shall be reported at the intervals specified in the permit.
 - b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
 - c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.
- b. Notice.
 - i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
 - ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
 - c. Prohibition of bypass.
 - i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 3. The permittee submitted notices as required under paragraph 2. b. of this section.
 - ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.
3. **Upset Requirements.**
 - a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being properly operated; and
 - iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
 - iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
 - c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section C – Bypass/Upset Requirements

1. **Definitions.**
 - a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
 - b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
2. **Bypass Requirements.**
 - a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
 - a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
 - b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

- imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
- c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.
- d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed \$10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.
2. **Duty to Reapply.**
- a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
- b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
- c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
5. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
6. **Permit Actions.**
- a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
- i. Violations of any terms or conditions of this permit or the law;
- ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
- iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- iv. Any reason set forth in the Law or Regulations.
- b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
7. **Permit Transfer.**
- a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
- b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
- c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.
8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.
11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.
12. **Closure of Treatment Facilities.**
 - a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
 - b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.
13. **Signatory Requirement.**
 - a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
 - b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
 - c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.
14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.



August 1, 2013

RECEIVED MISSOURI DEPARTMENT OF NATURAL RESOURCES

AUG - 6 2013

John C. Pozzo

Mr. Chris Wieberg
Chief, Operating Permits Section
Missouri Department of Natural Resources
Water Pollution Control Branch
Permit Section
PO Box 176
Jefferson City, MO 65102-0176

Dear Mr. Wieberg:

RE: Callaway Energy Center NPDES Permit Renewal Application - #MO-0098001

In accordance with State and Federal regulations, enclosed is the renewal application for Union Electric Company (d/b/a Ameren Missouri) Callaway Energy Center, Permit #MO-0098001 (one additional copy is included). We believe the application is complete with all required forms, signatures, and drawings.

This application includes a set of Attachments. The attachments provide additional details regarding information required in the application forms and contain several specific requests regarding permit conditions. We appreciate your consideration of these requests.

Please contact Gail Gary of my staff at 314-554-2824 should you have any questions or need additional information.

Sincerely,

John C. Pozzo
Managing Supervisor Water Quality

Enclosure

bcc: J. F. Small
J. H. Howard
D. L. Maschler
B. F. Holderness
MLM/SCW/JCP
MFB/SSW/GPG
WQ 3.1.1

CALLAWAY NPDES PERMIT REAPPLICATION CONTENTS

FORMS

1. Form A
2. Form C
3. Form D

ATTACHMENTS

1. Attachment A, Description of Outfalls
2. Attachment B, Return of River Water
3. Attachment C, Description of Intermittent Flows
4. Attachment D, Chemical Usage
5. Attachment E, NPDES Sampling and Analysis
6. Attachment F, Section 311 and CERCLA Exemptions
7. Attachment G, General Comments on Standards Setting
8. Attachment H, Section 316(b) Demonstration Status
9. Attachment I, Macroinvertebrate Control
10. Attachment J, Activities, Materials and Management Practices with the Potential to Impact Storm Water Quality
11. Attachment K, Requests for Modification of Current Permit Conditions

DRAWINGS

1. Flow Diagram and Water Balance
2. NPDES-001, Storm Water Information
3. NPDES-002, Topographic Map and Drainage Areas
4. NPDES-004, Receiving Streams Map



AUG - 6 2013

MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM A - APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT
 UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED

Note ▶ PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:

An operating permit and antidegradation review public notice

A construction permit following an appropriate operating permit and antidegradation review public notice

A construction permit and concurrent operating permit and antidegradation review public notice

A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required)

An operating permit for a new or unpermitted facility Construction Permit # _____

An operating permit renewal: permit # MO- 0098001 Expiration Date 2/12/2014

An operating permit modification: permit # MO- Reason: _____

1.1 Is the appropriate fee included with the application? (See instructions for appropriate fee) YES NO

2. FACILITY

NAME Ameren Missouri Callaway Energy Center		TELEPHONE WITH AREA CODE (573) 308-2334	
ADDRESS (PHYSICAL) Junction Highway CC & Route O		FAX (573) 676-4484	
CITY Fulton	STATE MO	ZIP CODE 65251	

3. OWNER

NAME Union Electric Company d/b/a Ameren Missouri		E-MAIL ADDRESS ggary@ameren.com	TELEPHONE WITH AREA CODE (314) 554-2824
ADDRESS (MAILING) P.O. Box 66149 (MC-602)		FAX (314) 554-4182	
CITY St. Louis	STATE MO	ZIP CODE 63166-6149	

3.1 Request review of draft permit prior to public notice? YES NO

4. CONTINUING AUTHORITY

NAME SAME AS OWNER		TELEPHONE WITH AREA CODE	
ADDRESS (MAILING)		FAX	
CITY	STATE	ZIP CODE	

5. OPERATOR

NAME SAME AS OWNER		CERTIFICATE NUMBER	TELEPHONE WITH AREA CODE
ADDRESS (MAILING)		FAX	
CITY	STATE	ZIP CODE	

6. FACILITY CONTACT

NAME James F. Small		TITLE Chemistry Manager	TELEPHONE WITH AREA CODE (573) 308-2334
		FAX (573) 676-4484	

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.) (See attached page)

001 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County _____
 UTM Coordinates Easting (X): _____ Northing (Y): _____
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County _____
 UTM Coordinates Easting (X): _____ Northing (Y): _____

003 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County _____
 UTM Coordinates Easting (X): _____ Northing (Y): _____

004 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County _____
 UTM Coordinates Easting (X): _____ Northing (Y): _____

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

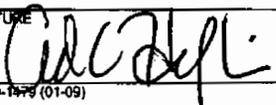
001 - SIC 4911 _____ and NAICS 221113 _____ 002 - SIC _____ and NAICS _____

003 - SIC _____ and NAICS _____ 004 - SIC _____ and NAICS _____

7.1 Legal Description of Outfalls

001	NE ¼	NE ¼	Sec 14	T 46N	R 8W	Callaway County
002	NW ¼	NW ¼	Sec 13	T 46N	R 8W	Callaway County
003	SW ¼	SW ¼	Sec 13	T 46N	R 8W	Callaway County
007	SW ¼	SW ¼	Sec 13	T 45N	R 8W	Callaway County
009	NW ¼	NW ¼	Sec 5	T 46N	R 8W	Callaway County
010	SW ¼	SW ¼	Sec 12	T 46N	R 8W	Callaway County
011	NW ¼	SE ¼	Sec 12	T 46N	R 8W	Callaway County
012	NE ¼	SE ¼	Sec 14	T 46N	R 8W	Callaway County
014	NW ¼	SE ¼	Sec 11	T 46N	R 8W	Callaway County
015	SE ¼	NE ¼	Sec 11	T 46N	R 8W	Callaway County
016	NW ¼	NW ¼	Sec 13	T 46N	R 8W	Callaway County
017	SE ¼	NE ¼	Sec 14	T 46N	R 8W	Callaway County

Note: The location of Outfalls 002 and 016 is described at the connection to the plant discharge line. The location of Outfall 001 is described from the Discharge Monitor Tanks.

8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION (Complete all forms that are applicable.)			
A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C (unless storm water only, then complete U.S. Environmental Protection Agency Form 2F per Item C below).	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
B.	Is your facility considered a "Primary Industry" under EPA guidelines: If yes, complete Forms C and D.	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
C.	Is application for storm water discharges only? If yes, complete EPA Form 2F.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
D.	Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.		
E.	Is wastewater land applied? If yes, complete Form I.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
F.	Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? If yes, complete Form R.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions. (PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).			
NAME Mary L. Austin			
ADDRESS 4519 Holt Road		CITY Wentzville	STATE ZIP CODE MO 63385
10. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law to the Missouri Clean Water Commission.			
NAME AND OFFICIAL TITLE (TYPE OR PRINT) Adam Heflin, Senior Vice President & Chief Nuclear Officer		TELEPHONE WITH AREA CODE (573) 823-5411	
SIGNATURE 		DATE SIGNED 7-31-13	

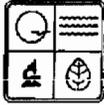
MO 780-1479 (01-09)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

Submittal of an incomplete application may result in the application being returned.

HAVE YOU INCLUDED:

- Appropriate Fees?
- Map at 1" = 2000' scale?
- Signature?
- Form C, if applicable?
- Form D, if applicable?
- Form 2F, if applicable?
- Form I (Irrigation), if applicable?
- Form R (Sludge), if applicable?



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
FORM C – APPLICATION FOR DISCHARGE PERMIT –
MANUFACTURING, COMMERCIAL, MINING,
SILVICULTURE OPERATIONS, PROCESS & STORM WATER

AUG - 6 2013

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

TE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY
 Ameren Missouri Callaway Energy Center

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER
 MO-0098001

1.20 THIS IS A NEW FACILITY AND WAS CONSTRUCTED UNDER MISSOURI CONSTRUCTION PERMIT NUMBER (COMPLETE ONLY IF THIS FACILITY DOES NOT HAVE AN OPERATING PERMIT).

2.00 LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES APPLICABLE TO YOUR FACILITY (FOUR DIGIT CODE)

A. FIRST 4911 B. SECOND _____
 C. THIRD _____ D. FOURTH _____

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) _____ 1/4 _____ 1/4 SEC _____ T _____ R _____ COUNTY _____

(See attached page)

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST)	RECEIVING WATER
001, 002, 003, 007, 009, 016	Missouri River
010, 011, 012, 014, 015	Tributaries to the Missouri River (See Att. A)

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS
 Steam Electric Power Plant (Nuclear)

2.10 Legal Description of Outfalls

001	NE ¼	NE ¼	Sec 14	T 46N	R 8W	Callaway County
002	NW ¼	NW ¼	Sec 13	T 46N	R 8W	Callaway County
003	SW ¼	SW ¼	Sec 13	T 46N	R 8W	Callaway County
007	SW ¼	SW ¼	Sec 13	T 45N	R 8W	Callaway County
009	NW ¼	NW ¼	Sec 5	T 46N	R 8W	Callaway County
010	SW ¼	SW ¼	Sec 12	T 46N	R 8W	Callaway County
011	NW ¼	SE ¼	Sec 12	T 46N	R 8W	Callaway County
012	NE ¼	SE ¼	Sec 14	T 46N	R 8W	Callaway County
014	NW ¼	SE ¼	Sec 11	T 46N	R 8W	Callaway County
015	SE ¼	NE ¼	Sec 11	T 46N	R 8W	Callaway County
016	NW ¼	NW ¼	Sec 13	T 46N	R 8W	Callaway County
017	SE ¼	NE ¼	Sec 14	T 46N	R 8W	Callaway County

Note: The location of Outfalls 002 and 016 is described at the connection to the plant discharge line. The location of Outfall 001 is described from the Discharge Monitor Tanks.

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, public sewers and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

- B. For each outfall, provide a description of
1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water and storm water runoff.
 2. The average flow contributed by each operation.
 3. The treatment received by the wastewater.

Continue on additional sheets if necessary.

1. OUTFALL NO. (LIST)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
	A. OPERATION (LIST)	B. AVERAGE FLOW (INCLUDE UNITS) (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
001	Radwaste Treatment System	0.020 (0.190) MGD *	Discharge	2J, 1Q, 2K, 4A
	1) Boron Recycle	0.001		
	2) Equipment Drains	0.0002		
	3) Primary Floor Drains	0.0013		
	4) Laundry/Hot Shower	0.0002		
	5) Polisher Regen Waste	0.008		
	6) Secondary Floor Drains	0.0093		
	7) Steam Generator Blowdown	0 **		
002	Cooling Tower Blowdown	5.6 (14.40) MGD	Discharge	2F, 4A
003	Water Treatment Plant Waste	0.42 (1.6) MGD	Sedimentation	1U, 4C
	1) Clarifier Blowdown	0.33	Floculation	1G
	2) Carbon Filter Backwash	0.004	Filtration	1Q
	3) Oily Waste	0.023	Separation	XX
	4) Makeup Demin Plant Waste	0.0072	Neutralization	2K
007	Sanitary Waste	0.025 (0.050) MGD	Aerated Lagoons	3B, 4C
009	Intake Electric Heaters	0 (0.006) MGD**	Neutralization	2K, 4A
010	Storm Water Runoff	0.082 (4.6)	Sedimentation	1U, 4A
011	Storm Water Runoff	0.36 (19.7)	Sedimentation	1U, 4A
012	Storm Water Runoff	0.12 (6.6)	Sedimentation	1U, 4A
014	Storm Water Runoff	0.087 (4.8)	Sedimentation	1U, 4A
015	Storm Water Runoff	0.050 (2.8)	Sedimentation	1U, 4A
016	Cooling Tower Bypass	0.80 (14.40) MGD *	Discharge	4A
017	Ultimate Heat Sink Pond	0 (0)	No Discharge	NA

* Flow is intermittent. "Average daily" flow is reported. See Section 2.40 for average for days when discharging.

** No discharge in past 25 years.

2.40 CONTINUED

C. EXCEPT FOR STORM RUNOFF, LEAKS OR SPILLS, ARE ANY OF THE DISCHARGES DESCRIBED IN ITEMS A OR B INTERMITTENT OR SEASONAL?

YES (COMPLETE THE FOLLOWING TABLE) NO (GO TO SECTION 2.50)

1. OUTFALL NUMBER (list)	2. OPERATION(S) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				C. DURATION (in days)
		A. DAYS PER WEEK (specify average)	B. MONTHS PER YEAR (specify average)	A. FLOW RATE (in mgd)		B. TOTAL VOLUME (specify with units)		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	
001	Radwaste Treatment	1.2	12	0.081	0.187			61 D/yr
016	Cooling Tower Bypass See Attachment C, Description of Intermittent Flows	3.5	12	1.3	3.2			180 D/yr

2.50 MAXIMUM PRODUCTION

A. DOES AN EFFLUENT GUIDELINE LIMITATION PROMULGATED BY EPA UNDER SECTION 304 OF THE CLEAN WATER ACT APPLY TO YOUR FACILITY?

YES (COMPLETE B.) NO (GO TO SECTION 2.60)

B. ARE THE LIMITATIONS IN THE APPLICABLE EFFLUENT GUIDELINES EXPRESSED IN TERMS OF PRODUCTION (OF OTHER MEASURE OF OPERATION)?

YES (COMPLETE C.) NO (GO TO SECTION 2.60)

C. IF YOU ANSWERED "YES" TO B. LIST THE QUANTITY THAT REPRESENTS AN ACTUAL MEASUREMENT OF YOUR MAXIMUM LEVEL OF PRODUCTION, EXPRESSED IN THE TERMS AND UNITS USED IN THE APPLICABLE EFFLUENT GUIDELINE AND INDICATE THE AFFECTED OUTFALLS.

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS (list outfall numbers)
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	

2.60 IMPROVEMENTS

A. ARE YOU NOW REQUIRED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY TO MEET, ANY IMPLEMENTATION SCHEDULE FOR THE CONSTRUCTION, UPGRADING OR OPERATION OF WASTEWATER TREATMENT EQUIPMENT OR PRACTICES OR ANY OTHER ENVIRONMENTAL PROGRAMS THAT MAY AFFECT THE DISCHARGES DESCRIBED IN THIS APPLICATION? THIS INCLUDES, BUT IS NOT LIMITED TO, PERMIT CONDITIONS, ADMINISTRATIVE OR ENFORCEMENT ORDERS, ENFORCEMENT COMPLIANCE SCHEDULE LETTERS, STIPULATIONS, COURT ORDERS AND GRANT OR LOAN CONDITIONS.

YES (COMPLETE THE FOLLOWING TABLE) NO (GO TO 3.00)

1. IDENTIFICATION OF CONDITION AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
				A. REQUIRED	B. PROJECTED

B. OPTIONAL: YOU MAY ATTACH ADDITIONAL SHEETS DESCRIBING ANY ADDITIONAL WATER POLLUTION CONTROL PROGRAMS (OR OTHER ENVIRONMENTAL PROJECTS THAT MAY AFFECT YOUR DISCHARGES) YOU NOW HAVE UNDER WAY OR ARE YOU PLANNING. INDICATE WHETHER EACH PROGRAM IS NOW UNDER WAY OR PLANNED, AND INDICATE YOUR ACTUAL OR PLANNED SCHEDULES FOR CONSTRUCTION.

MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED.

3.10 BIOLOGICAL TOXICITY TESTING DATA
 DO YOU HAVE ANY KNOWLEDGE OR REASON TO BELIEVE THAT ANY BIOLOGICAL TEST FOR ACUTE OR CHRONIC TOXICITY HAS BEEN MADE ON ANY OF YOUR DISCHARGES OR ON RECEIVING WATER IN RELATION TO YOUR DISCHARGE WITHIN THE LAST THREE YEARS?
 YES (IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW.) NO (GO TO 3.20)

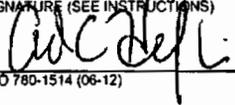
Annual Whole Effluent Toxicity (WET) tests are conducted in accordance with permit conditions. The last test was conducted in September 2012 and a report was issued in October 2012.

3.20 CONTRACT ANALYSIS INFORMATION
 WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?
 YES (LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW.) NO (GO TO 3.30)

A. NAME	B. ADDRESS	C. TELEPHONE (area code and number)	D. POLLUTANTS ANALYZED (list)
TestAmerica Laboratories, Inc	13715 Rider Trail North Earth City, MO 63045	314-298-8566	See Attachment E, NPDES Sampling & Analysis
PDC Laboratories, Inc.	3278 North Highway 67 Florissant, MO 63033	314-595-7337	See Attachment E, NPDES Sampling & Analysis

3.30 CERTIFICATION
 I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) Adam Heflin, Senior Vice President & Chief Nuclear Officer	TELEPHONE NUMBER WITH AREA CODE (573) 823-5411
---	---

SIGNATURE (SEE INSTRUCTIONS) 	DATE SIGNED 7-31-13
---	------------------------

Callaway Energy Center Outfall 001

Form C
TABLE I for 3.00 Item A & B

Outfall No.
001

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				d. NO. OF ANALYSES	3. UNITS (specify if mass)		4. INTAKE (estimate)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	<120	<96	94	74	12	mg/l	lbs/d			
b. Chemical Oxygen Demand (COD)	92	74			1	mg/l	lbs/d			
c. Total Organic Carbon (TOC)	24	19			1	mg/l	lbs/d			
d. Total Suspended Solids (TSS)	15	12	14	11	61	mg/l	lbs/d			
e. Ammonia (as N)	45	36			1	mg/l	lbs/d			
f. Flow	VALUE 0.096		VALUE 0.094		61	MGD		VALUE		
g. Temperature (winter)	VALUE		VALUE 25		6	°C		VALUE		
h. Temperature (summer)	VALUE 26.0		VALUE 33		6	°C		VALUE		
i. pH	MINIMUM 7.21	MAXIMUM	MINIMUM 6.38	MAXIMUM 8.99	61	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS				5. INTAKE (estimate)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVERAGE VALUE (if available)	d. NO OF ANALYSES	e. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					(1) CONCENTRATION	(2) MASS	
a. Bromide (24869-87-9)	X		0.50	0.40				1	mg/l	lbs/d			
b. Chlorine, Total Residual	X		0.01	0.008	0.090	0.071	0.039	12	mg/l	lbs/d			
c. Color		X											
d. Fecal Coliform		X											
e. Fluoride (13684-85-8)	X		<0.1	<0.080				1	mg/l	lbs/d			
f. Nitrate - Nitrite (as N)	X		<0.050	<0.040				1	mg/l	lbs/d			

Callaway Energy Center Outfall 001

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (estimated)		b. NO OF ANALYSES	
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30-DAY VALUE		c. CONCENTRATION	d. NO OF ANALYSES	e. MASS	f. LONG TERM AVERAGE VALUE		
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION		(2) MASS
g. Nitrogen, Total Organic (as N)	X		<0.20	<0.16			1	lbs/d				
h. Oil and Grease	X		<5.0	<4.0	7	5.5	12	lbs/d				
i. Phosphorus (as P) Total (7723-14-0)	X		0.27	0.22			1	lbs/d				
j. Radioactivity												
(1) Alpha, Total		X	4.6				1	pCi/l				
(2) Beta, Total	X		2330				1	pCi/l				
(3) Radium, Total		X										
(4) Radium 226, Total		X										
k. Sulfate (as SO4) (14808-75-8)	X		1300	1040			1	mg/l	lbs/d			
l. Sulfide (as S)		X	*									
m. Sulfite (as SO3) (14805-45-3)		X										
n. Surfactants	X											
o. Aluminum, Total (7429-90-6)	X		0.12	0.10			1	mg/l	lbs/d			
p. Barium, Total (7440-39-3)	X		0.051	0.041			1	mg/l	lbs/d			
q. Boron, Total (7440-42-8)	X		55**	44	41	32	61	mg/l	lbs/d			
r. Cobalt, Total (7440-48-4)		X	<0.002	<0.0016			1	mg/l	lbs/d			
s. Iron, Total (7439-96-6)	X		0.82	0.66			1	mg/l	lbs/d			
t. Magnesium, Total (7439-95-4)	X		9.0	7.2			1	mg/l	lbs/d			
u. Molybdenum, Total (7439-98-7)	X		0.091	0.073			1	mg/l	lbs/d			
v. Manganese, Total (7439-96-5)	X		0.022	0.018			1	mg/l	lbs/d			
w. Tin, Total (7440-31-5)		X	0.0022	0.0018			1	mg/l	lbs/d			
x. Titanium, Total (7440-32-9)	X		<0.005	<0.0040			1	mg/l	lbs/d			

*A commercial lab was not located equipped to analyze surfactants for a potentially radioactive sample. If surfactant data is considered essential, at DNR's request we will attempt to arrange for a special analysis. Note that a test conducted for the 1995 respiration revealed no substantial surfactants (<0.025 mg/l).
 **The effluent boron concentration could be as high as 1000 mg/l for Outfall 001 (see Attachment A)

Callaway Energy Center Outfall 002

Form C
TABLE I for 3.00 Item A & B

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form C)

Outfall No.
002

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				3. UNITS (insert if other)		4. INTAKE (insert if other)		b. NO. OF ANALYSES
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	<6.0	<170			mg/l	lbs/d			1
b. Chemical Oxygen Demand (COD)	57	1600			mg/l	lbs/d			1
c. Total Organic Carbon (TOC)	17	490			mg/l	lbs/d			1
d. Total Suspended Solids (TSS)	59	1700	143	7990	mg/l	lbs/d			52
e. Ammonia (as N)	0.19	5.5			mg/l	lbs/d			1
f. Flow	VALUE	3.46	VALUE	6.7	MGD		VALUE		365
g. Temperature (winter)	VALUE	19.3	VALUE	24			VALUE		182
h. Temperature (summer)	VALUE		VALUE	33			VALUE		183
i. pH	MINIMUM	7.37	MAXIMUM	7.75	STANDARD UNITS				Continuous

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (insert if other)	
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE	b. MAXIMUM 30 DAY VALUE (if available)	c. LONG TERM AVERAGE VALUE (if available)		a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE	
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS
a. Bromide (24859-67-9)	X		3.1	89						
b. Chlorine Total Residual	X		<0.05	<1.4	0.083	4.6	0.062	3.0	mg/l	lbs/d
c. Color		X								
d. Fecal Coliform		X								
e. Fluoride (14804-46-9)	X		1.1	32						
f. Nitrate Nitrite (as N)	X		7.8	220					mg/l	lbs/d

Callaway Energy Center Outfall 002

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT						4. UNITS			5. INTAKE (optional)		b. NO OF ANALYSES	
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG VALUE (if available)		d. NO OF ANALYSES	e. CONCENTRATION	f. MASS	g. LONG TERM AVERAGE VALUE			
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS							
g. Nitrogen, Total Organic (as N)	X		2.5	72					1	mg/l	lbs/d				
h. Oil and Grease	X		<4.8	<140	<5.0	<280	1.9	92	4	mg/l	lbs/d				
i. Phosphorus (as P) Total (7723-14-0)	X		2.3	66					1	mg/l	lbs/d				
j. Radioactivity															
(1) Alpha, Total		X	15						1	pCi/l					
(2) Beta, Total	X		21						1	pCi/l					
(3) Radium, Total		X													
(4) Radium 226, Total		X													
k. Sulfate (as SO4) (1480679-8)	X		990	29000					1	mg/l	lbs/d				
l. Sulfide (as S)		X													
m. Sulfite (as SO3) (14265-45-3)		X													
n. Surfactants	X		0.20	5.8					1	mg/l	lbs/d				
o. Aluminum, Total (7429-90-5)	X		2.8	81					1	mg/l	lbs/d				
p. Barium, Total (7440-39-3)	X		0.31	8.9					1	mg/l	lbs/d				
q. Boron, Total (7440-42-8)	X		0.33	9.5					1	mg/l	lbs/d				
r. Cobalt, Total (7440-48-4)		X	<0.002	<0.058					1	mg/l	lbs/d				
s. Iron, Total (7439-89-8)	X		2.7	78					1	mg/l	lbs/d				
t. Magnesium, Total (7439-95-4)	X		71	2000					1	mg/l	lbs/d				
u. Molybdenum, Total	X		0.0090	0.26					1	mg/l	lbs/d				
v. Manganese, Total	X		0.15	4.3					1	mg/l	lbs/d				
w. Tin, Total (7440-31-5)		X	<0.002	<0.058					1	mg/l	lbs/d				
x. Titanium, Total (7440-32-6)	X		0.037	1.07					1	mg/l	lbs/d				

Callaway Energy Center Outfall 003

Form C
TABLE I for 3.00 Item A & B

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 2 of Form C)

Outfall No.
003

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				4. NO. OF ANALYSES	3. UNITS (specify if mass)		4. INTAKE (optional)		b. NO. OF ANALYSES
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)			c. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	15	1.80			1	mg/l	lbs/d	<6.0	<570	1
b. Chemical Oxygen Demand (COD)	37	4.44			1	mg/l	lbs/d	26	2500	1
c. Total Organic Carbon (TOC)	8.8	1.06			1	mg/l	lbs/d	5.9	560	1
d. Total Suspended Solids (TSS)	38	4.56			1	mg/l	lbs/d	1500	140000	1
e. Ammonia (as N)	0.21	0.025			1	mg/l	lbs/d	0.55	52	1
f. Flow	VALUE	0.0144	VALUE	VALUE	1	MGD		VALUE 11.37		1
g. Temperature (winter)	VALUE	7.7	VALUE	VALUE	4	°C		VALUE 8.5		4
h. Temperature (summer)	VALUE		VALUE	VALUE		°C		VALUE 22.7		1
i. pH	MINIMUM	9.00	MAXIMUM	9.15	4	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		b. NO. OF ANALYSES	
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG VALUE (if available)	d. NO. OF ANALYSES	a. LONG TERM AVERAGE VALUE	b. MASS		
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS						(1) CONCENTRATION
a. Bromide (24959-87-9)	X		<0.25	<0.03			1	mg/l	lbs/d	<0.25	<24	1
b. Chlorine, Total Residual	X		<0.05	<0.006			4	mg/l	lbs/d			
c. Color		X										
d. Fecal Coliform		X								420	39000	1
e. Fluoride (14898-49-8)	X		0.32	0.038			1	mg/l	lbs/d	0.18	17	1
f. Nitrate-Nitrite (as N)	X		0.12	0.014			1	mg/l	lbs/d	2.0	190	1

mc 765-1574 (11-97)

Callaway Energy Center Outfall 003

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS			5. INTAKE (average)		b NO OF ANALYSES	
	a BELIEVED PRESENT	b BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG VALUE (if available)		a CONCENTRATION	b MASS	a LONG TERM AVERAGE VALUE		
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					
g. Nitrogen, Total Organic (as N)	X		2.4	0.29					mg/l	lbs/d	3.0	280	1
h. Oil and Grease	X		<4.7	<0.56					mg/l	lbs/d	<4.7	<450	4
i. Phosphorus (as P) Total (7723-14-0)	X		0.36	0.043					mg/l	lbs/d	2.8	270	1
j. Radioactivity													
(1) Alpha, Total		X	3.8						pCi/l		12		1
(2) Beta, Total	X		5.2						pCi/l		13		1
(3) Radium, Total		X											
(4) Radium 226, Total		X											
k. Sulfide (as SO4) (14806-71-6)	X		260	31					mg/l	lbs/d	38	3600	1
l. Sulfide (as S)		X											
m. Sulfide (as SO3) (14266-45-3)		X											
n. Surfactants	X		0.12	0.014					mg/l	lbs/d	<0.10	<9.5	1
o. Aluminum, Total (7429-90-5)	X		0.56	0.067					mg/l	lbs/d	33	3100	1
p. Barium, Total (7440-39-3)	X		0.083	0.010					mg/l	lbs/d	0.39	37	1
q. Boron, Total (7440-42-8)	X		170	20					µg/l	lbs/d	71	6700	1
r. Cobalt, Total (7440-48-4)		X	<2.0	<0.24					µg/l	lbs/d	16	1500	1
s. Iron, Total (7439-98-6)	X		0.89	0.11					mg/l	lbs/d	38	3600	1
t. Magnesium, Total (7439-95-4)	X		23	2.8					mg/l	lbs/d	13	1200	1
u. Manganese, Total (7439-98-7)	X		6.4	0.77					µg/l	lbs/d	<5	<470	1
v. Manganese, Total (7439-98-5)	X		0.69	0.083					mg/l	lbs/d	1.5	140	1
w. Tin, Total (7440-31-9)		X	<2.0	<0.24					µg/l	lbs/d	<2.0	<190	1
x. Titanium, Total (7440-32-6)	X		8.2	1.0					µg/l	lbs/d	330	31000	1

Callaway Energy Center Outfall 007

Form C
TABLE I for 3.00 Item A & B

Outfall No.
007

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				d. NO. OF ANALYSES	3. UNITS (Specify if limit)		4. INTAKE (continued)		
	e. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	12	1.5			1	mg/l	lbs/d			
b. Chemical Oxygen Demand (COD)	98	12			1	mg/l	lbs/d			
c. Total Organic Carbon (TOC)	20	2.5			1	mg/l	lbs/d			
d. Total Suspended Solids (TSS)	26	3.3			1	mg/l	lbs/d			
e. Ammonia (as N)	0.64	0.080			1	mg/l	lbs/d			
f. Flow	VALUE	0.015	VALUE		1	MGD		VALUE		
g. Temperature (winter)	VALUE	12	VALUE		1			VALUE		
h. Temperature (summer)	VALUE	26.3	VALUE		1			VALUE		
i. pH	MINIMUM	8.11	MAXIMUM	9.37	2	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (continued)	
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	4. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG VALUE (if available)	d. NO OF ANALYSES	a. CONCENTRATION	b. MASS
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				
a. Bromide (24859-87-8)		X								
b. Chlorine, Total Residual		X								
c. Color		X								
d. Fecal Coliform	X									
e. Fluoride (14804-48-8)		X								
f. Nitrate-Nitrite (as N)	X		0.20	0.025				1	#/100ml	-
								1	mg/l	lbs/d

After flowing through two wetlands for additional polishing, Outfall 007 is recycled to the head of the water treatment plant for reuse.

Callaway Energy Center Outfall 007

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS			5. INTAKE (reported)		b. NO OF ANALYSES	
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG VALUE (if available)	d. NO OF ANALYSES	e. CONCENTRATION	f. MASS	g. LONG TERM AVERAGE VALUE		
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					(1) CONCENTRATION		(2) MASS
g. Nitrogen, Total Organic (as N)	X		4.3	0.54				1	mg/l	lbs/d			
h. Oil and Grease	X		<5.0	<0.63				1	mg/l	lbs/d			
i. Phosphorus (as P) Total (7723-14-0)	X		3.5	0.44				1	mg/l	lbs/d			
j. Radioactivity													
(1) Alpha, Total		X	<3.0					1	pCi/l				
(2) Beta, Total	X		14					1	pCi/l				
(3) Radium, Total		X											
(4) Radium 226, Total		X											
h. Sulfide (as SO4) (14308-79-0)	X		58	7.3				1	mg/l	lbs/d			
i. Sulfide (as S)		X											
m. Sulfite (as SO3) (14285-45-3)		X											
n. Surfactants	X		0.22	0.028				1	mg/l	lbs/d			
o. Aluminum, Total (7429-90-5)	X		0.20	0.025				1	mg/l	lbs/d			
p. Barium, Total (7440-39-3)	X		0.043	0.005				1	mg/l	lbs/d			
q. Boron, Total (7440-42-8)	X		0.25	0.031				1	mg/l	lbs/d			
r. Cobalt, Total (7440-48-4)		X	<2.0	<0.25				1	µg/l	lbs/d			
s. Iron, Total (7439-89-6)	X		0.18	0.023				1	mg/l	lbs/d			
t. Magnesium, Total (7430-86-4)	X		25	3.1				1	mg/l	lbs/d			
u. Methylcobaltum, Total (7439-98-7)	X		<5.0	<0.63				1	µg/l	lbs/d			
v. Manganese, Total (7439-96-5)	X		0.14	0.018				1	mg/l	lbs/d			
w. Tin, Total (7440-31-5)		X	<2.0	<0.25				1	µg/l	lbs/d			
x. Titanium, Total (7440-32-6)	X		<5.0	<0.63				1	µg/l	lbs/d			

After flowing through two wetlands for additional polishing, Outfall 007 is recycled to the head of the water treatment plant for reuse.

Callaway Energy Center Outfall 010

Form C
TABLE 1 for 3.00 Item A & B

Outfall No.
010

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				d. NO. OF ANALYSES	3. UNITS (specify if mass)		4. INTAKE (season)		b. NO OF ANALYSES
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)			e. LONG TERM AVERAGE VALUE	b. MASS	5. INTAKE (season)		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	<6.0	<56			1	mg/l	lbs/d			
b. Chemical Oxygen Demand (COD)	18	168			1	mg/l	lbs/d			
c. Total Organic Carbon (TOC)	6.3	59			1	mg/l	lbs/d			
d. Total Suspended Solids (TSS)	24	224			1	mg/l	lbs/d			
e. Ammonia (as N)	<0.010	<0.093			1	mg/l	lbs/d			
f. Flow	VALUE	1.12	VALUE	VALUE	1	MGD		VALUE		
g. Temperature (winter)	VALUE		VALUE	VALUE	1	°C		VALUE		
h. Temperature (summer)	VALUE	24	VALUE	VALUE	1	°C		VALUE		
i. pH	MINIMUM	8.54	MINIMUM	MAXIMUM	1	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (season)		b. NO OF ANALYSES
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE	b. MAXIMUM 30 DAY VALUE (if available)	c. LONG TERM AVRG VALUE (if available)		a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE	b. MASS	
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	
a. Bromide (24850-67-9)		X									
b. Chlorine, Total Residual		X									
c. Color		X									
d. Fecal Coliform	X		140					#/100ml	-		
e. Fluoride (10824-49-8)		X									
f. Nitrate + Nitrite (as N)	X		<9.3					mg/l	lbs/d		

Callaway Energy Center Outfall 010

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (continued)		6. NO. OF ANALYSES
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	c. MAXIMUM DAILY VALUE		d. MAXIMUM 30 DAY VALUE (if available)		e. CONCENTRATION	f. MASS	g. LONG TERM AVERAGE VALUE		
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)	X		<1.1	<10.3			1	mg/l	lbs/d		
h. Oil and Grease	X		<5.5	<51			1	mg/l	lbs/d		
i. Phosphorus (as P) Total (7723-14-2)	X		0.056	0.52			1	mg/l	lbs/d		
j. Radioactivity											
(1) Alpha, Total		X									
(2) Beta, Total		X									
(3) Radium, Total		X									
(4) Radium 226, Total		X									
k. Sulfate (as SO4) (14806-70-6)	X		36	336			1	mg/l	lbs/d		
l. Sulfide (as S)		X									
m. Sulfite (as SO3) (14296-48-3)		X									
n. Surfactants		X									
o. Aluminum, Total (7429-89-5)	X		0.37	3.5			1	mg/l	lbs/d		
p. Barium, Total (7440-39-3)		X									
q. Boron, Total (7440-42-8)		X									
r. Cobalt, Total (7440-48-4)		X									
s. Iron, Total (7439-89-8)	X		0.45	4.2			1	mg/l	lbs/d		
t. Magnesium, Total (7439-96-4)	X		6.9	64			1	mg/l	lbs/d		
u. Molybdenum, Total (7439-98-1)		X									
v. Manganese, Total (7439-96-5)		X									
w. Tin, Total (7440-31-5)		X									
x. Titanium, Total (7440-32-6)		X									

Callaway Energy Center Outfall 011

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS			5. INTAKE (optional)		6. NO OF ANALYSES
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG VALUE (if available)	d. NO OF ANALYSES	e. LONG TERM AVERAGE VALUE			
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS		
g. Nitrogen, Total Organic	X		1.3	38				1	mg/l	lbs/d		
h. Oil and Grease	X		<5.3	<160				1	mg/l	lbs/d		
i. Phosphorus (as P) Total (7723-14-0)	X		0.15	4.4				1	mg/l	lbs/d		
j. Radioactivity												
(1) Alpha, Total		X										
(2) Beta, Total		X										
(3) Radium, Total		X										
(4) Radium 226, Total		X										
k. Sulfide (as SO4) (14305-76-8)	X		17	500				1	mg/l	lbs/d		
l. Sulfide (as S)		X										
m. Sulfite (as SO3) (14205-45-3)		X										
n. Surfactants		X										
o. Aluminum, Total (7429-90-5)	X		2.2	64				1	mg/l	lbs/d		
p. Barium, Total (7440-39-3)		X										
q. Boron, Total (7440-42-6)		X										
r. Cobalt, Total (7440-48-4)		X										
s. Iron, Total (7439-86-6)	X		2.5	73				1	mg/l	lbs/d		
t. Magnesium, Total (7439-96-4)	X		5.5	160				1	mg/l	lbs/d		
u. Molybdenum, Total (7439-98-7)		X										
v. Manganese, Total (7439-96-5)		X										
w. Tin, Total (7440-31-5)		X										
x. Titanium, Total (7440-32-6)		X										

Callaway Energy Center Outfall 012

Form C
TABLE I for 3.00 Item A & B

Outfall No.
012

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 2 of Form C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				4. NO. OF ANALYSES	3. UNITS (specify if blank)		4. INTAKE (continued)		b. NO OF ANALYSES
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD) (COD)	<6.0	<52			1	mg/l	lbs/d			
b. Chemical Oxygen Demand (COD)	21	180			1	mg/l	lbs/d			
c. Total Organic Carbon (TOC)	4.3	37			1	mg/l	lbs/d			
d. Total Suspended Solids (TSS)	88	760			1	mg/l	lbs/d			
e. Ammonia (as N)	0.14	1.2			1	mg/l	lbs/d			
f. Flow	VALUE	1.04	VALUE		1	MGD		VALUE		
g. Temperature (winter)	VALUE		VALUE		1	°C		VALUE		
h. Temperature (summer)	VALUE	24	VALUE			°C		VALUE		
i. pH	MINIMUM	8.55	MAXIMUM		1	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (continued)		b. NO OF ANALYSES
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE	b. MAXIMUM 30 DAY VALUE (if available)	c. LONG TERM AVRG. VALUE (if available)		a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	
a. Bromide (2-558-07-9)		X									
b. Chlorine, Total Residual		X									
c. Color		X									
d. Fecal Coliform	X		6500	-					#/100ml	-	
e. Fluoride (16984-49-8)		X									
f. Nitrate - Nitrite (as N)	X		<1.0	<8.7					mg/l	lbs/d	

Callaway Energy Center Outfall 012

1. POLLUTANT AND CAS NO. (if known)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		D NO OF ANALYSES
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. CONCENTRATION	d. MASS	e. LONG TERM AVERAGE VALUE		
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)	X		<1.1	<9.5			1	lbs/d			
h. Oil and Grease	X		<5.1	<44			1	lbs/d			
i. Phosphorus (as P) Total (7723-14-9)	X		0.12	1.0			1	lbs/d			
j. Radioactivity											
(1) Alpha, Total		X									
(2) Beta, Total		X									
(3) Radium, Total		X									
(4) Radium 226, Total		X									
k. Sulfate (as SO4) (14898-76-8)	X		30	260			1	mg/l			
l. Sulfide (as S)		X									
m. Sulfite (as SO3) (14285-45-3)		X									
n. Surfactants		X									
o. Aluminum, Total (7429-90-5)	X		2.7	23			1	mg/l			
p. Barium, Total (7440-39-3)		X									
q. Boron, Total (7440-42-8)		X									
r. Cobalt, Total (7440-48-1)		X									
s. Iron, Total (7439-89-8)	X		2.5	22			1	mg/l			
t. Magnesium, Total (7439-95-4)	X		7.7	67			1	mg/l			
u. Molybdenum, Total (7439-98-7)		X									
v. Manganese, Total (7439-96-5)		X									
w. Tin, Total (7440-31-5)		X									
x. Titanium, Total (7440-32-8)		X									

Callaway Energy Center Outfall 014

Form C
TABLE I for 3.00 Item A & B

Outfall No.
014

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 2 of Form C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				4. NO. OF ANALYSES	3. UNITS (Specify if Mass)		4. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD) (COD)	9.5	67			1	mg/l	lbs/d			
b. Chemical Oxygen Demand (COD)	38	270			1	mg/l	lbs/d			
c. Total Organic Carbon (TOC)	12	85			1	mg/l	lbs/d			
d. Total Suspended Solids (TSS)	37	260			1	mg/l	lbs/d			
e. Ammonia (as N)	<0.010	<0.071			1	mg/l	lbs/d			
f. Flow	VALUE	0.85	VALUE	VALUE	1	MGD		VALUE		
g. Temperature (water)	VALUE		VALUE	VALUE	1			VALUE		
h. Temperature (summer)	VALUE	24	VALUE	VALUE	1			VALUE		
i. pH	MINIMUM	8.32	MINIMUM	MAXIMUM	1	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark columns 2-a or 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS				5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG VALUE (if available)	d. NO OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					(1) CONCENTRATION	(2) MASS	
a. Bromide (26989-87-9)		X											
b. Chlorine, Total Residual		X											
c. Color		X											
d. Fecal Coliform	X		3200	-			1	#/100ml	-				
e. Fluoride (16984-46-6)		X											
f. Nitrate - Nitrite (as N)	X		<1.0	<7.1			1	mg/l	lbs/d				

Callaway Energy Center Outfall 014

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS			5. INTAKE (optional)	
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. CONCENTRATION	d. NO. OF ANALYSES	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)	X		<1.1	<7.8			1	mg/l	lbs/d		
h. Oil and Grease	X		<5.1	<36			1	mg/l	lbs/d		
i. Phosphorus (as P) Total (7723-14-0)	X		0.16	1.1			1	mg/l	lbs/d		
j. Radioactivity											
(1) Alpha, Total		X									
(2) Beta, Total		X									
(3) Radium, Total		X									
(4) Radium 226, Total		X									
k. Sulfate (as SO4) (14908-78-8)	X		20	140			1	mg/l	lbs/d		
l. Sulfide (as S)		X									
m. Sulfite (as SO3) (14285-45-3)		X									
n. Surfactants		X									
o. Aluminum, Total (7429-90-5)	X		1.3	9.2			1	mg/l	lbs/d		
p. Barium, Total (7440-39-3)		X									
q. Boron, Total (7440-42-4)		X									
r. Cobalt, Total (7440-48-4)		X									
s. Iron, Total (7439-89-6)	X		2.1	15			1	mg/l	lbs/d		
t. Magnesium, Total (7439-95-4)	X		6.0	43			1	mg/l	lbs/d		
u. Molybdenum, Total (7439-96-7)		X									
v. Manganese, Total (7439-96-5)		X									
w. Tin, Total (7440-31-5)		X									
x. Titanium, Total (7440-32-8)		X									

Callaway Energy Center Outfall 015

Form C
TABLE I for 3.00 Item A, B

Outfall No.
015

INTAKE AND EFFLUENT CHARACTERISTICS (reprinted from page 3 of Form C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				3. UNITS (Specify if Mass)		4. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. CONCENTRATION	d. NO. OF ANALYSES	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD) (COD)	<6.0	<25			mg/l	1	lbs/d		
b. Chemical Oxygen Demand (COD)	27	110			mg/l	1	lbs/d		
c. Total Organic Carbon (TOC)	8.2	34			mg/l	1	lbs/d		
d. Total Suspended Solids (TSS)	4.4	18			mg/l	1	lbs/d		
e. Ammonia (as N)	<0.010	<0.041			mg/l	1	lbs/d		
f. Flow	VALUE	0.49	VALUE	VALUE	MGD	1	VALUE	VALUE	
g. Temperature (winter)	VALUE		VALUE	VALUE	°C	1	VALUE	VALUE	
h. Temperature (summer)	VALUE	24	VALUE	VALUE	°C		VALUE	VALUE	
i. pH	MINIMUM 9.56*	MAXIMUM	MINIMUM	MAXIMUM	STANDARD UNITS	1			

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS				5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVERAGE VALUE (if available)	d. NO OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					(1) CONCENTRATION	(2) MASS	
a. Bromide (241656-87-9)		X											
b. Chlorine, Total Residual		X											
c. Color		X											
d. Fecal Coliform	X		27	-			1	#/100ml	-				
e. Fluoride (101004-48-6)		X											
f. Nitrate - Nitrite (as N)	X		<1.0	<4.1			1	mg/l	lbs/d				

no 780-1514 (11-97)

*Algae bloom present around edge of pond and near the point of discharge when sampled for pH.

Callaway Energy Center Outfall 015

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS			5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVG VALUE		d. NO OF ANALYSES	e. LONG TERM AVERAGE VALUE		b. NO OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				
g. Nitrogen, Total Organic (as N)	X		<1.1	<4.5				mg/l	1	lbs/d		
h. Oil and Grease	X		<5.1	<21				mg/l	1	lbs/d		
i. Phosphorus (as P) Total (7723-14-0)	X		<0.050	<0.21				mg/l	1	lbs/d		
j. Radioactivity												
(1) Alpha, Total		X										
(2) Beta, Total		X										
(3) Radium, Total		X										
(4) Radium 226, Total		X										
k. Sulfate (as SO4) (14808-79-6)	X		20	83				mg/l	1	lbs/d		
l. Sulfide (as S)		X										
m. Sulfite (as SO3) (14285-45-3)		X										
n. Surfactants		X										
o. Aluminum, Total (7429-90-5)	X		0.034	0.14				mg/l	1	lbs/d		
p. Barium, Total (7440-39-3)		X										
q. Boron, Total (7440-42-6)		X										
r. Cobalt, Total (7440-48-4)		X										
s. Iron, Total (7439-89-6)	X		0.13	0.54				mg/l	1	lbs/d		
t. Magnesium, Total (7439-96-4)	X		6.4	26				mg/l	1	lbs/d		
u. Molybdenum, Total (7439-98-7)		X										
v. Manganese, Total (7439-96-5)		X										
w. Tin, Total (7440-31-5)		X										
x. Titanium, Total (7440-32-6)		X										

Callaway Energy Center Outfall 016

Form C
TABLE 1 for 3.00 Item A & B

Outfall No.
016

INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 2 of Form C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				3. UNITS (specify / basis)				4. INTAKE (date #)			
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	e. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	<6.0	<50					1	mg/l	lbs/d			
b. Chemical Oxygen Demand (COD)	18	150					1	mg/l	lbs/d			
c. Total Organic Carbon (TOC)	4.9	41					1	mg/l	lbs/d			
d. Total Suspended Solids (TSS)	18	150	20	420	12	100	1	mg/l	lbs/d			
e. Ammonia (as N)	0.26	2.2					1	mg/l	lbs/d			
f. Flow	VALUE	Isolated*	VALUE 2.5	MAXIMUM 8.40	VALUE 1.0		4	MGD		VALUE		
g. Temperature (winter)	VALUE	7.1	VALUE		VALUE		4	°C		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 7.90	MAXIMUM 8.10	MINIMUM 7.91	MAXIMUM 8.40			4	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (date #)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG VALUE (if available)		d. NO. OF ANALYSES	a. LONG TERM AVERAGE VALUE	b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
a. Bromide (24050-07-6)	X		<0.25	<2.1					1	lbs/d	
b. Chroma, Total Residual	X		<0.05	<0.42	<0.050	0.040	0.33		4	lbs/d	
c. Color		X									
d. Fecal Coliform		X									
e. Fluoride (16984-48-6)	X		0.191	1.6					1	lbs/d	
f. Nitrate + Nitrite (as N)	X		1.8	15					1	lbs/d	

no 780-1514 (11-97)

*Mass estimated based on long term average flow of 1.0 MGD when discharging. Outfall 016 was inadvertently isolated during the sampling campaign.

Callaway Energy Center Outfall 016

1. POLLUTANT AND CAS NO. (if number)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (estimated)		b. NO OF ANALYSES	
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		c. LONG TERM AVG VALUE		d. MASS	e. LONG TERM AVERAGE VALUE		
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		(1) CONCENTRATION		(2) MASS
g. Nitrogen, Total Organic (as N)	X		<0.55	<4.6					lbs/d		1	
h. Oil and Grease	X		<4.7	<39	<5.0	3.6	30		lbs/d		4	
i. Phosphorus (as P) Total (7723-14-0)	X		0.13	1.1					lbs/d		1	
j. Radioactivity												
(1) Alpha, Total		X	<3.0						pCi/l		1	
(2) Beta, Total	X		<4.0						pCi/l		1	
(3) Radium, Total		X										
(4) Radium 226, Total		X										
k. Sulfate (as SO4) (14808-76-8)	X		43	360					lbs/d		1	
l. Sulfide (as S)		X										
m. Sulfite (as SO3) (14285-45-3)		X										
n. Surfactants	X		<0.10	<0.83					lbs/d		1	
o. Aluminum, Total (7429-90-5)	X		0.79	6.6					lbs/d		1	
p. Barium, Total (7440-39-3)	X		0.062	0.52					lbs/d		1	
q. Boron, Total (7440-42-8)	X		0.051	0.43					lbs/d		1	
r. Cobalt, Total (7440-49-4)		X	<0.002	<0.017					lbs/d		1	
s. Iron, Total (7439-89-6)	X		0.81	6.8					lbs/d		1	
t. Magnesium, Total (7439-96-4)	X		8.1	68					lbs/d		1	
u. Molybdenum, Total (7439-96-7)	X		<0.005	<0.042					lbs/d		1	
v. Manganese, Total (7439-96-5)	X		0.060	0.50					lbs/d		1	
w. Tin, Total (7440-31-5)		X	<0.002	<0.017					lbs/d		1	
x. Titanium, Total (7440-32-6)	X		0.010	0.083					lbs/d		1	

*Mass estimated based on long term average flow of 1.0 MGD when discharging. Outfall 016 was inadvertently isolated during the sampling campaign.



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
FORM - APPLICATION FOR DISCHARGE PERMIT
PRIMARY INDUSTRIES

FOR AGENCY USE ONLY

CHECK NO

DATE RECEIVED

FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY

Ameren Missouri Callaway Energy Center

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER

MO - 0098001

This form is to be filled out in addition to forms A and C "Application for Discharge Permit" for the Industries listed below.

INDUSTRY CATEGORY

Adhesives and sealants	Ore mining
Aluminum forming	Organic chemicals manufacturing
Auto and other laundries	Paint and ink formulation
Battery manufacturing	Pesticides
Coal mining	Petroleum refining
Coil coating	Pharmaceutical preparations
Copper forming	Photographic equipment and supplies
Electric and electronic compounds	Plastic and synthetic materials manufacturing
Electroplating	Plastic processing
Explosives manufacturing	Porcelain enameling
Foundries	Printing and publishing
Gum and wood chemicals	Pulp and paperboard mills
Inorganic chemicals manufacturing	Rubber processing
Iron and steel manufacturing	Soap and detergent manufacturing
Leather tanning and finishing	Steam electric power plants
Landfill	Textile mills
Mechanical products manufacturing	Timber products processing
Nonferrous metals manufacturing	

**APPLICATION FOR DISCHARGE PERMIT
FORM D - PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED)	OUTFALL NUMBER
MO-0098001	001

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	B. MAXIMUM 30 DAY VALUE (2) MASS CONCENTRATION	C. LONG TERM AVRG. VALUE (3) MASS CONCENTRATION	D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	B. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS												
1M. Antimony, Total (7440-36-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.004			1	UG/L	LBS/D			
2M. Arsenic, Total (7440-38-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.008			1	UG/L	LBS/D			
3M. Beryllium, Total (7440-41-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.0004			1	UG/L	LBS/D			
4M. Cadmium, Total (7440-43-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.0004			1	UG/L	LBS/D			
5M. Chromium, Total (7440-47-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.019			1	UG/L	LBS/D			
6M. Copper, Total (7550-50-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.037			1	UG/L	LBS/D			
7M. Lead, Total (7439-97-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.002			1	UG/L	LBS/D			
8M. Mercury, Total (7439-97-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.0002			1	UG/L	LBS/D			
9M. Nickel, Total (7440-02-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.012			1	UG/L	LBS/D			
10M. Selenium, Total (7782-49-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.004			1	UG/L	LBS/D			
11M. Silver, Total (7440-22-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.0001			1	UG/L	LBS/D			
12M. Thallium, Total (7440-28-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.002			1	UG/L	LBS/D			
13M. Zinc, Total (7440-66-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.049			1	UG/L	LBS/D			
14M. Cyanide, Total (57-12-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.004			1	UG/L	LBS/D			
15M. Phenols, Total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.040			1	UG/L	LBS/D			
DIOXIN												
2,3,7,8 - Tetra - chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

DESCRIBE RESULTS

CONTINUED FROM PAGE 3

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BE-USED PRE-SENT	C. BE-USED PRE-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION -- VOLATILE COMPOUNDS											
1V. Acrolein (107-02-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<50	<0.40			1	UG/L	LBS/D	
2V. Acrylonitrile (107-13-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<50	<0.40			1	UG/L	LBS/D	
3V. Benzene (71-43-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
4V. Bis (Chloromethyl) Ether (542-88-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D	
5V. Bromoform (75-25-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
6V. Carbon Tetrachloride (96-23-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
7V. Chlorobenzene (108-90-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
8V. Chlorodibromomethane (124-48-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
9V. Chloroethane (75-00-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D	
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<20	<0.016			1	UG/L	LBS/D	
11V. Chloroform (67-66-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
12V. Dichlorobromomethane (75-27-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					1	UG/L	LBS/D	
14V. 1,1 - Dichloroethane (75-34-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
15V. 1,2 - Dichloroethane (107-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
16V. 1,1 - Dichloroethylene (75-35-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
17V. 1,2 - Dichloropropane (78-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
18V. 1,2 - Dichloropropylene (542-75-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0**	<0.004			1	UG/L	LBS/D	
19V. Ethylbenzene (100-41-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D	
20V. Methyl Bromide (74-83-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D	
21V. Methyl Chloride (74-87-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D	

NO 780-1516 (6-04)

PAGE 3

CONTINUE ON PAGE 4

* This parameter was deleted per 40 CFR, Part 122, Appendix D.
 ** This parameter is 1,3 Dichloropropylene per 40 CFR, Part 122, Appendix D.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT			4. UNITS			5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BE-USED PRE-SENT	C. BE-USED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG.	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)												
22V. Methylene Chloride (75-09-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D		
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D		
24V. Tetrachloroethylene (127-18-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D		
25V. Toluene (109-88-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D		
26V. 1,2-Trans Dichloroethylene (156-60-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D		
27V. 1,1,1-Tri-chloroethane (71-55-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D		
28V. 1,1,2-Tri-chloroethane (79-00-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D		
29V. Trichloro-ethylene (79-01-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D		
30V. Trichloro-fluoromethane (75-69-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	***				1	UG/L	LBS/D		
31V. Vinyl Chloride (75-01-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.004			1	UG/L	LBS/D		

GC/MS FRACTION - ACID COMPOUNDS												
1A. 2-Chlorophenol (95-57-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		
2A. 2,4-Dichloro-phenol (120-83-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		
3A. 2,4-Dimethyl-phenol (105-67-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		
4A. 4,6-Dinitro-O-Cresol (534-52-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		
5A. 2,4-Dinitro-phenol (51-28-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<50	<0.040			1	UG/L	LBS/D		
6A. 2-Nitrophenol (88-75-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		
7A. 4-Nitrophenol (100-02-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		
8A. P-Chloro-M-Cresol (99-50-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		
9A. Pentachloro-phenol (87-86-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		
10A. Phenol (108-95-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		
11A. 2,4,6-Trichloro-phenol (88-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008			1	UG/L	LBS/D		

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS			5. INTAKE (optional)				
	A. TEST-ING-C-OMPLETED	B. BE-LIEVED-IMP-URT	C. BE-LIEVED-IMP-URT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)			A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANAL-YSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
2B. Acenaphthylene (208-96-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
3B. Anthracene (120-12-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
4B. Benzidine (92-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<100	<0.080						UG/L	LBS/D			
5B. Benzo (a) Anthracene (56-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
6B. Benzo (a) Pyrene (50-32-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
7B. 3,4 - Benzofluoranthene (205-99-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
8B. Benzo (ghi) Perylene (191-24-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
9B. Benzo (k) Fluoranthene (207-08-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
15B. Butyl Benzyl Phthalate (85-68-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
16B. 2-Chloronaphthalene (91-58-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
18B. Chrysene (218-01-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
19B. Dibenzo (a,h) Anthracene (63-70-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
20B. 1,2 - Dichlorobenzene (95-50-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			
21B. 1,3 - Dichlorobenzene (541-73-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008						UG/L	LBS/D			

NO 782-1516 (6-04)

PAGE 5

CONTINUE ON PAGE 6

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)

OUTFALL NUMBER

MO-0098001

001

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT			4. UNITS			5. INTAKE (optional)					
	A. TEST-ING REQUIRED	B. BE-LIEVED PRE-SENT	C. BE-LIEVED AS-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANAL-YSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANAL-YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1, 4-Dichlorobenzene (106-46-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
23B. 3, 3'-Dichlorobenzidine (91-94-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<50	<0.040					1	UG/L	LBS/D			
24B. Diethyl Phthalate (84-86-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
25B. Dimethyl Phthalate (131-11-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
26B. Di-N-butyl Phthalate (84-74-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
27B. 2, 4-Dinitrotoluene (121-14-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
28B. 2, 6-Dinitrotoluene (606-20-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
29B. Di-N-Octyl Phthalate (117-84-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
30B. 1, 2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
31B. Fluoranthene (206-44-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
32B. Fluorene (86-73-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
33B. Hexachlorobenzene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
34B. Hexachlorobutadiene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
35B. Hexachloro-cyclopentadiene (77-47-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
36B. Hexachloroethane (67-72-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
37B. Indeno (1, 2, 3-c-d) Pyrene (193-39-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
38B. Isophorone (76-59-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
39B. Naphthalene (91-20-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
40B. Nitrobenzene (98-95-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
41B. N-Nitro-sodimethylamine (62-75-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
42B. N-Nitroso N-Propylamine (621-64-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			

MO 780-151b (6-04)

PAGE 6

CONTINUE ON PAGE 7

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCEN- TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitro-sodiphenylamine (86-30-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
44B. Phenanthrene (85-01-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
45B. Pyrene (129-00-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
46B. 1,2,4-Trichlorobenzene (120-82-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.008					1	UG/L	LBS/D			
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												

**APPLICATION FOR DISCHARGE PERMIT
FORM D - PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED)	OUTFALL NUMBER
MO-0098001	002

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	B. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	C. LONG TERM AVRG. VALUE (if available) (2) MASS	D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	B. NO OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS												
1M. Antimony, Total (7440-36-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<5.0			1	UG/L	LBS/D			
2M. Arsenic, Total (7440-38-2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10			1	UG/L	LBS/D			
3M. Beryllium, Total (7440-41-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.5			1	UG/L	LBS/D			
4M. Cadmium, Total (7440-43-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.5			1	UG/L	LBS/D			
5M. Chromium, Total (7440-47-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<10			1	UG/L	LBS/D			
6M. Copper, Total (7550-50-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	33			1	UG/L	LBS/D			
7M. Lead, Total (7439-97-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.0			1	UG/L	LBS/D			
8M. Mercury, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.2			1	UG/L	LBS/D			
9M. Nickel, Total (7440-02-0)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12			1	UG/L	LBS/D			
10M. Selenium, Total (7782-49-2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5.5			1	UG/L	LBS/D			
11M. Silver, Total (7440-22-4)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.13			1	UG/L	LBS/D			
12M. Thallium, Total (7440-28-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<2.0			1	UG/L	LBS/D			
13M. Zinc, Total (7440-66-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18			1	UG/L	LBS/D			
14M. Cyanide, Total (57-12-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15M. Phenols, Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
DIOXIN												
2,3,7,8 - Tetra - chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
DESCRIBE RESULTS												

CONTINUED FROM PAGE 3

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)		B. NO OF ANALYSES	
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION		(2) MASS
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
2V. Acrylonitrile (107-13-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
3V. Benzene (71-43-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
4V. Bis (Chloromethyl) Ether (542-88-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
5V. Bromoform (75-25-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
6V. Carbon Tetrachloride (56-23-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
7V. Chlorobenzene (108-90-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
8V. Chlorodibromomethane (124-48-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
9V. Chloroethane (75-00-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
11V. Chloroform (67-66-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
12V. Dichlorobromomethane (75-27-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
14V. 1,1 - Dichloroethane (75-34-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
15V. 1,2 - Dichloroethane (107-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
16V. 1,1 - Dichloroethylene (75-35-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
17V. 1,2 - Dichloropropane (78-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
18V. 1,2 - Dichloropropylene (542-75-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
19V. Ethylbenzene (100-41-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
20V. Methyl Bromide (74-83-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
21V. Methyl Chloride (74-87-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												

CONTINUED FROM THE FRONT

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
002

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT (if available)			4. UNITS			5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	B. MAXIMUM 30 DAY VALUE (2) MASS	C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	A. CONCEN- TRATION	B. MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	B. NO OF ANAL- YSES
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)											
22V. Methylene Chloride (75-09-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
23V. 1,1,2,2 - Tetra- chloroethane (79-34-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
24V. Tetrachloroethylene (127-18-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
25V. Toluene (108-98-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
26V. 1,2 - Trans Dichloroethylene (156-60-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
27V. 1,1,1 - Tri - chloroethane (71-55-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
28V. 1,1,2 - Tri- chloroethane (79-00-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
29V. Trichloro - ethylene (79-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
30V. Trichloro - fluoromethane (75-69-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
31V. Vinyl Chloride (75-01-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
GC/MS FRACTION - ACID COMPOUNDS											
1A. 2 - Chlorophenol (95-57-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
2A. 2,4 - Dichloro - phenol (120-83-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3A. 2,4 - Dimethyl - phenol (105-67-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
4A. 4,6 - Dinitro - O- Cresol (534-52-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
5A. 2,4 - Dinitro - phenol (51-28-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
6A. 2-Nitrophenol (88-75-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
7A. 4-Nitrophenol (100-02-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
8A. P - Chloro - M Cresol (59-50-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
9A. Pentachloro - phenol (87-86-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
10A. Phenol (108-952)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
11A. 2,4,6 - Trichloro- phenol (88-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)			
	A. TESTING REQUIRED	B. BE- LIEVED PRE-SENT	C. BE- LIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANAL- YSES	A. LONG TERM AVRG. VALUE	B. NO OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS												
1B. Acenaphthene (83-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2B. Acenaphthylene (208-96-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3B. Anthracene (120-12-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4B. Benzidine (92-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5B. Benzo (a) Anthracene (56-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6B. Benzo (a) Pyrene (50-32-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7B. 3,4 - Benzofluoranthene (205-99-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8B. Benzo (ghi) Perylene (191-24-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9B. Benzo (k) Fluoranthene (207-08-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15B. Butyl Benzyl Phthalate (85-68-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
16B. 2-Chloronaphthalene (91-58-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
18B. Chrysene (218-01-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
20B. 1,2 - Dichlorobenzene (95-50-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
21B. 1,3 - Dichlorobenzene (541-73-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

PAGE 5

PAGE 6

MO 780-1516 (6-04)

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
002

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS			5. INTAKE (optional)			
	A. TESTING REQUIRED	B. BE- LIEVED PRE-SENT	C. BE- LIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)			D. NO. OF ANAL- YSES	A. LONG TERM AVRG. VALUE	B. NO OF ANAL- YSES	
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS
GC/MS FRACTION - BASENEUTRAL COMPOUNDS (continued)														
22B. 1,4-Dichlorobenzene (106-46-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
23B. 3,3'-Dichlorobenzidine (91-94-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
24B. Diethyl Phthalate (84-66-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
25B. Dimethyl Phthalate (131-11-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
26B. Di-N-butyl Phthalate (84-74-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
27B. 2,4-Dinitrotoluene (121-14-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
28B. 2,6-Dinitrotoluene (608-20-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
29B. Di-N-Octyl Phthalate (117-94-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
31B. Fluoranthene (206-44-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
32B. Fluorene (86-73-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
33B. Hexachlorobenzene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
34B. Hexachlorobutadiene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
35B. Hexachloro-cyclopentadiene (77-47-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
36B. Hexachloroethane (67-72-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
38B. Isophorone (78-59-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
39B. Naphthalene (91-20-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
40B. Nitrobenzene (98-95-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
41B. N-Nitro-sodimethylamine (62-75-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
42B. N-Nitroso N-Propylamine (621-64-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)			
	A. TESTING REQUIRED	B. RELEVANT PRESENT	C. RELEVANT ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				
GC/MS FRACTION - BASENEUTRAL COMPOUNDS (continued)												
43B. N-Nitro-sodiphenylamine (86-30-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
44B. Phenanthrene (85-01-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
45B. Pyrene (129-00-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
46B. 1,2,4-Trichlorobenzene (120-82-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
GC/MS FRACTION - PESTICIDES												
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>								X	
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

**APPLICATION FOR DISCHARGE PERMIT
FORM D - PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED) MO-0098001	OUTFALL NUMBER 003

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS				6. INTAKE (optional)				
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCEN- TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001					1	UG/L	LBS/D	<5.0	<0.47	1
2M. Arsenic, Total (7440-38-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					1	UG/L	LBS/D	15	1.4	1
3M. Beryllium, Total (7440-41-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.5	<0.001					1	UG/L	LBS/D	1.4	0.13	1
4M. Cadmium, Total (7440-43-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.5	<0.001					1	UG/L	LBS/D	0.81	0.077	1
5M. Chromium, Total (7440-47-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					1	UG/L	LBS/D	40	3.8	1
6M. Copper, Total (7550-50-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.5	0.0007					1	UG/L	LBS/D	30	2.8	1
7M. Lead, Total (7439-97-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<3.0	<0.001					1	UG/L	LBS/D	22	2.1	1
8M. Mercury, Total (7439-97-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.2	<0.001					1	UG/L	LBS/D	<0.2	<0.019	1
9M. Nickel, Total (7440-02-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001					1	UG/L	LBS/D	39	3.7	1
10M. Selenium, Total (7782-49-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001					1	UG/L	LBS/D	5.1	0.48	1
11M. Silver, Total (7440-22-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.34	0.00004					1	UG/L	LBS/D	0.21	0.020	1
12M. Thallium, Total (7440-28-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<2.0	<0.001					1	UG/L	LBS/D	0.92	0.087	1
13M. Zinc, Total (7440-66-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.6	0.0043					1	UG/L	LBS/D	110	10	1
14M. Cyanide, Total (57-12-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001					1	UG/L	LBS/D	<5.0	<0.47	1
15M. Phenols, Total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<50	<0.006					1	UG/L	LBS/D	<50	<4.7	1
DIOXIN															
2,3,7,8 - Tetra - chlorodibenzo-P- Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												

DESCRIBE RESULTS

CONTINUED FROM PAGE 3

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		B. NO OF ANAL. YSES	
	A. TEST. REQ. REQUIRED	B. BE LIQUID PRE. SENT	A. MAXIMUM DAILY VALUE	B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)	D. NO. OF ANAL. YSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. INTAKE (optional)
			(1) CONCENTRATION	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION		(2) MASS
GC/MS FRACTION - VOLATILE COMPOUNDS												
1V. Acrolein (107-02-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<50	<0.006				UG/L	LBS/D	<50	<4.7	1
2V. Acrylonitrile (107-13-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<50	<0.006				UG/L	LBS/D	<50	<4.7	1
3V. Benzene (71-43-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
4V. Bis (Chloromethyl) Ether (542-88-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<10	<0.95	1
5V. Bromoform (75-25-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
6V. Carbon Tetrachloride (56-23-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
7V. Chlorobenzene (108-90-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
8V. Chlorodibromomethane (124-48-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
9V. Chloroethane (75-00-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<10	<0.95	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
11V. Chloroform (67-66-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
12V. Dichlorobromomethane (75-27-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	*					UG/L	LBS/D	*		1
14V. 1,1 - Dichloroethane (75-34-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
15V. 1,2 - Dichloroethane (107-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
16V. 1,1 - Dichloroethylene (75-35-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
17V. 1,2 - Dichloropropane (78-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
18V. 1,2 - Dichloropropylene (542-75-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0**	<0.001				UG/L	LBS/D	<5.0**	<0.47	1
19V. Ethylbenzene (100-41-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.001				UG/L	LBS/D	<5.0	<0.47	1
20V. Methyl Bromide (74-83-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<10	<0.95	1
21V. Methyl Chloride (74-87-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<10	<0.95	1

NO. 784-1516 (6-84)

PAGE 3

CONTINUE ON PAGE 4

* This parameter was deleted per 40 CFR, Part 122, Appendix D.

** This parameter is 1,3 Dichloropropylene per 40 CFR, Part 122, Appendix D.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT			4. UNITS			5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BE LIVED PRE SENT	C. BE LIVED AIR SENT	A. MAXIMUM DAILY VALUE		D. NO. OF ANAL. YSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG.		
				(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)											
22V. Methylene Chloride (75-09-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
24V. Tetrachloroethylene (127-18-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
25V. Toluene (108-88-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
26V. 1,2-Trans Dichloroethylene (156-60-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
27V. 1,1,1-Trichloroethane (71-55-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
28V. 1,1,2-Trichloroethane (79-00-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
29V. Trichloroethylene (79-01-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
30V. Trichlorofluoromethane (75-69-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
31V. Vinyl Chloride (75-01-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<5.0	<0.47	1
GC/MS FRACTION - ACID COMPOUNDS											
1A. 2-Chlorophenol (95-57-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1
2A. 2,4-Dichlorophenol (120-83-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1
3A. 2,4-Dimethylphenol (105-67-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1
5A. 2,4-Dinitrophenol (51-28-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.006		1	UG/L	LBS/D	<56	<5.3	1
6A. 2-Nitrophenol (88-75-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1
7A. 4-Nitrophenol (100-02-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1
8A. p-Chloro-M-Cresol (59-50-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1
9A. Pentachlorophenol (87-86-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1
10A. Phenol (108-95-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1
11A. 2,4,6-Trichlorophenol (88-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.001		1	UG/L	LBS/D	<11	<1.0	1

*** Trichlorofluoromethane has been deleted per 40 CFR, Part 122, Appendix D.

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)			
	A. TESTING REQUIRED	B. BE- LIVED PRE- SENT	C. BE- LIVED AB- SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		A. LONG TERM AVRG. VALUE	B. NO OF ANAL- YSES		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS													
1B. Acenaphthene (83-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
2B. Acenaphthylene (208-96-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
3B. Anthracene (120-12-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
4B. Benzidine (92-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<100	<0.012				UG/L	LBS/D	<110	<1.0	1
5B. Benzo (a) Anthracene (56-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
6B. Benzo (a) Pyrene (50-32-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
7B. 3,4 - Benzofluoranthene (205-99-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
8B. Benzo (ghi) Perylene (191-24-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
9B. Benzo (k) Fluoranthene (207-08-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
15B. Butyl Benzyl Phthalate (85-68-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
16B. 2-Chloronaphthalene (91-59-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
18B. Chrysene (218-01-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
20B. 1,2 - Dichlorobenzene (95-50-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1
21B. 1,3 - Dichlorobenzene (541-73-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001				UG/L	LBS/D	<11	<1.0	1

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
003

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT			4. UNITS			5. INTAKE (optional)						
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	B. MAXIMUM 30 DAY VALUE (if available)			C. LONG TERM AVRG. VALUE (if available)			A. LONG TERM AVRG. VALUE	B. MASS CONCENTRATION	B. NO OF ANALYSES				
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION			(2) MASS				
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)																
22B. 1, 4-Dichlorobenzene (106-46-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
23B. 3, 3'-Dichlorobenzidine (91-94-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<50	<0.006					UG/L	LBS/D	<56	<5.3	1		
24B. Diethyl Phthalate (84-66-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
25B. Dimethyl Phthalate (131-11-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
26B. Di-N-butyl Phthalate (84-74-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
27B. 2,4-Dinitrotoluene (121-14-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
28B. 2,6-Dinitrotoluene (806-20-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
29B. Di-N-Octyl Phthalate (117-84-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
31B. Fluoranthene (206-44-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
32B. Fluorene (86-73-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
33B. Hexachlorobenzene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
34B. Hexachlorobutadiene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
35B. Hexachloro-cyclopentadiene (77-47-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
36B. Hexachloroethane (67-72-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
38B. Isophorone (78-59-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
39B. Naphthalene (91-20-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
40B. Nitrobenzene (98-95-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
41B. N-Nitrosodimethylamine (62-75-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		
42B. N-Nitroso N-Propylamine (621-64-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					UG/L	LBS/D	<11	<1.0	1		

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)					
	A. TESTING REQUIRED	B. BE. LEVIED PRESENT	C. BE. LEVIED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES			
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		(1) CONCENTRATION	(2) MASS			
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					1	UG/L	LBS/D	<11	<1.0	1
44B. Phenanthrene (85-01-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					1	UG/L	LBS/D	<11	<1.0	1
45B. Pyrene (129-00-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					1	UG/L	LBS/D	<11	<1.0	1
46B. 1,2,4-Trichlorobenzene (120-82-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.001					1	UG/L	LBS/D	<11	<1.0	1
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>										X		
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												

**APPLICATION FOR DISCHARGE PERMIT
FORM D - PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED) MO-0098001	OUTFALL NUMBER 007

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)		9. NO OF ANALYSES		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		(1) CONCENTRATION	(2) MASS
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS							
METALS, CYANIDE, AND TOTAL PHENOLS																
1M. Antimony, Total (7440-36-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<5.0	<0.001					1	UG/L	LBS/D				
2M. Arsenic, Total (7440-38-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<10	<0.001					1	UG/L	LBS/D				
3M. Beryllium, Total (7440-41-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.5	<0.001					1	UG/L	LBS/D				
4M. Cadmium, Total (7440-43-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.5	<0.001					1	UG/L	LBS/D				
5M. Chromium, Total (7440-47-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<10	<0.001					1	UG/L	LBS/D				
6M. Copper, Total (7550-50-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2.7	0.0003					1	UG/L	LBS/D				
7M. Lead, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<3.0	<0.001					1	UG/L	LBS/D				
8M. Mercury, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
9M. Nickel, Total (7440-02-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<5.0	<0.001					1	UG/L	LBS/D				
10M. Selenium, Total (7782-49-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<5.0	<0.001					1	UG/L	LBS/D				
11M. Silver, Total (7440-22-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<0.1	<0.001					1	UG/L	LBS/D				
12M. Thallium, Total (7440-28-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<2.0	<0.001					1	UG/L	LBS/D				
13M. Zinc, Total (7440-66-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13	0.0016					1	UG/L	LBS/D				
14M. Cyanide, Total (57-12-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
15M. Phenols, Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
DIOXIN																
2,3,7,8 - Tetra - chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													

DESCRIBE RESULTS

CONTINUED FROM PAGE 3

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)		B. NO OF ANALYSES	
	A. TESTING REQUIRED	B. BE LIEVED PRE-SENT	C. BE LIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. MASS
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS		(1) CONCENTRATION
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
2V. Acrylonitrile (107-13-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
3V. Benzene (71-43-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
4V. Bis (Chloromethyl) Ether (542-88-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
5V. Bromoform (75-25-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
6V. Carbon Tetrachloride (56-23-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
7V. Chlorobenzene (108-90-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
8V. Chlorodibromomethane (124-48-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
9V. Chloroethane (75-00-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
11V. Chloroform (67-66-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
12V. Dichlorobromomethane (75-27-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
14V. 1,1 - Dichloroethane (75-34-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
15V. 1,2 - Dichloroethane (107-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
16V. 1,1 - Dichloroethylene (75-35-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
17V. 1,2 - Dichloropropane (78-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
18V. 1,2 - Dichloropropylene (542-75-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
19V. Ethylbenzene (100-41-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
20V. Methyl Bromide (74-83-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
21V. Methyl Chloride (74-87-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
007

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		B. NO OF ANALYSES
	A. TESTING REQUIRED	B. BELIEVED PRESENT	A. MAXIMUM DAILY VALUE		C. LONG TERM AVRG. VALUE (if available)		A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	(1) CONCENTRATION	
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)											
22V. Methylene Chloride (75-09-2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
23V. 1,1,2,2 - Tetra-chloroethane (79-34-5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
24V. Tetrachloroethylene (127-18-4)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
25V. Toluene (108-88-3)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
26V. 1,2 - Trans Dichloroethylene (156-60-5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
27V. 1,1,1 - Tri-chloroethane (71-55-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
28V. 1,1,2 - Tri-chloroethane (79-00-5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
29V. Trichloro-ethylene (79-01-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
30V. Trichloro-fluoromethane (75-69-4)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
31V. Vinyl Chloride (75-01-4)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

GC/MS FRACTION - ACID COMPOUNDS

1A. 2 - Chlorophenol (95-57-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2A. 2,4 - Dichloro-phenol (120-83-2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3A. 2,4 - Dimethyl-phenol (105-67-9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4A. 4,6 - Dinitro - O-Cresol (534-52-1)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5A. 2,4 - Dinitro-phenol (51-28-5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6A. 2-Nitrophenol (88-75-5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7A. 4-Nitrophenol (100-02-7)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8A. P - Chloro - M Cresol (59-50-7)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9A. Pentachloro-phenol (87-86-5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10A. Phenol (108-952)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11A. 2,4,6 - Trichloro-phenol (88-06-2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. RE-TESTING REQUIRED	C. RE-TESTING REQUIRED	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS														
1B. Acenaphthene (83-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
2B. Acenaphthylene (208-96-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
3B. Anthracene (120-12-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
4B. Benzidine (92-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
5B. Benzo (a) Anthracene (56-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
6B. Benzo (a) Pyrene (50-32-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
7B. 3,4 - Benzofluoranthene (205-99-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
8B. Benzo (ghi) Perylene (191-24-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
9B. Benzo (k) Fluoranthene (207-08-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
15B. Butyl Benzyl Phthalate (85-68-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
16B. 2-Chloronaphthalene (91-58-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
18B. Chrysene (218-01-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
20B. 1,2 - Dichlorobenzene (95-50-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
21B. 1,3 - Dichlorobenzene (541-73-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)

MO-0098001

OUTFALL NUMBER

007

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT		4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. RELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	B. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	B. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)									
22B. 1, 4-Dichlorobenzene (106-46-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
23B. 3, 3'-Dichlorobenzidine (91-94-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
24B. Diethyl Phthalate (84-66-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
25B. Dimethyl Phthalate (131-11-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
26B. Di-N-butyl Phthalate (84-74-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
27B. 2, 4-Dinitrotoluene (121-14-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
28B. 2, 6-Dinitrotoluene (606-20-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
29B. Di-N-Octyl Phthalate (117-84-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
30B. 1, 2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
31B. Fluoranthene (206-44-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
32B. Fluorene (86-73-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
33B. Hexachlorobenzene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
34B. Hexachlorobutadiene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
35B. Hexachloro-cyclopentadiene (77-47-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
36B. Hexachloroethane (67-72-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
37B. Indeno (1, 2, 3-c-d) Pyrene (193-39-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
38B. Isophorone (78-59-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
39B. Naphthalene (91-20-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
40B. Nitrobenzene (98-95-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
41B. N-Nitrosodimethylamine (62-75-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
42B. N-Nitroso N-Propylamine (621-64-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>						

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		B. NO OF ANALYSES		
	A. TESTING REQUIRED	B. BE LIEVED PRE-SENT	C. BE LIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		A. CONCENTRATION	B. MASS		A. LONG TERM AVRG. VALUE	B. MASS
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					
GC/MS FRACTION - BASENEUTRAL COMPOUNDS (continued)														
43B. N-Nitrosodiphenylamine (86-30-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
44B. Phenanthrene (85-01-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
45B. Pyrene (129-00-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
46B. 1,2,4-Tri chlorobenzene (120-82-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
GC/MS FRACTION - PESTICIDES														
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											

**APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED) MO-0098001	OUTFALL NUMBER 010

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
METALS, CYANIDE, AND TOTAL PHENOLS												
1M. Antimony, Total (7440-36-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2M. Arsenic, Total (7440-38-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3M. Beryllium, Total (7440-41-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4M. Cadmium, Total (7440-43-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5M. Chromium, Total (7440-47-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6M. Copper, Total (7550-50-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7M. Lead, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8M. Mercury, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9M. Nickel, Total (7440-02-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10M. Selenium, Total (7782-49-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11M. Silver, Total (7440-22-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12M. Thallium, Total (7440-28-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13M. Zinc, Total (7440-66-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14M. Cyanide, Total (57-12-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15M. Phenols, Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
DIOXIN												
2,3,7,8 - Tetra - chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

DESCRIBE RESULTS

CONTINUED FROM PAGE 3

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS												
1V. Acrolein (107-02-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2V. Acrylonitrile (107-13-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3V. Benzene (71-43-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4V. Bis (Chloromethyl) Ether (542-88-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5V. Bromoform (75-25-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6V. Carbon Tetrachloride (56-23-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7V. Chlorobenzene (108-90-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8V. Chlorodibromomethane (124-48-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9V. Chloroethane (75-00-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11V. Chloroform (67-66-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12V. Dichlorobromomethane (75-27-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14V. 1,1 - Dichloroethane (75-34-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15V. 1,2 - Dichloroethane (107-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
16V. 1,1 - Dichloroethylene (75-35-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
17V. 1,2 - Dichloropropane (78-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
18V. 1,2 - Dichloropropylene (542-75-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
19V. Ethylbenzene (100-41-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
20V. Methyl Bromide (74-83-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
21V. Methyl Chloride (74-87-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
010

3. EFFLUENT

2. MARK "X"

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	A. TESTING REQUIRED	B. BELIEVED REPRESENT	C. BELIEVED REPRESENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)														
22V. Methylene Chloride (75-09-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
24V. Tetrachloroethylene (127-18-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
25V. Toluene (108-88-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
26V. 1,2-Trans Dichloroethylene (156-60-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
27V. 1,1,1-Tri-chloroethane (71-55-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
28V. 1,1,2-Tri-chloroethane (79-00-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
29V. Trichloro-ethylene (79-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
30V. Trichloro-fluoromethane (75-69-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
31V. Vinyl Chloride (75-01-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
GC/MS FRACTION - ACID COMPOUNDS														
1A. 2-Chlorophenol (95-57-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
2A. 2,4-Dichloro-phenol (120-83-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
3A. 2,4-Dimethyl-phenol (105-67-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
4A. 4,6-Dinitro-O-Cresol (534-52-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
5A. 2,4-Dinitro-phenol (51-28-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
6A. 2-Nitrophenol (88-75-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
7A. 4-Nitrophenol (100-02-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
8A. P-Chloro-M Cresol (59-50-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
9A. Pentachloro-phenol (87-86-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
10A. Phenol (108-952)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
11A. 2,4,6-Trichloro-phenol (88-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT						4. UNITS		5. INTAKE (optional)				
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANAL. YSES	A. CONCEN- TRATION	B. MASS	A. LONG TERM AVRG. VALUE	B. NO OF ANAL. YSES	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
2B. Acenaphthylene (208-96-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
3B. Anthracene (120-12-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
4B. Benzidine (92-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
5B. Benzo (a)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
Anthracene (56-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
6B. Benzo (a)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
Pyrene (50-32-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
7B. 3,4 - Benzofluoranthene (205-99-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
8B. Benzo (ghi)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
Perylene (191-24-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
9B. Benzo (k)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
Fluoranthene (207-08-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
10B. Bis (2-Chloroethoxy)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
Methane (111-91-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
15B. Butyl Benzyl Phthalate (85-68-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
16B. 2-Chloronaphthalene (91-58-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
18B. Chrysene (218-01-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
20B. 1,2 - Dichlorobenzene (95-50-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
21B. 1,3 - Dichlorobenzene (541-73-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
010

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		B. NO OF ANALYSES
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	B. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)												
228. 1,4-Dichlorobenzene (106-46-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
238. 3,3'-Dichlorobenzidine (91-94-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
248. Diethyl Phthalate (84-66-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
258. Dimethyl Phthalate (131-11-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
268. Di-N-butyl Phthalate (84-74-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
278. 2,4-Dinitrotoluene (121-14-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
288. 2,6-Dinitrotoluene (606-20-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
298. Di-N-Octyl Phthalate (117-84-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
308. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
318. Fluoranthene (206-44-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
328. Fluorene (86-73-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
338. Hexachlorobenzene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
348. Hexachlorobutadiene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
358. Hexachloro-cyclopentadiene (77-47-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
368. Hexachloroethane (67-72-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
378. Indeno (1,2,3-c-d) Pyrene (193-39-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
388. Isophorone (78-59-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
398. Naphthalene (91-20-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
408. Nitrobenzene (98-95-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
418. N-Nitrosodimethylamine (62-75-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
428. N-Nitroso N-Propylamine (621-64-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT						4. UNITS		5. INTAKE (optional)					
	A. TESTING REQUIRED	B. BE- LIEVED PRE- SENT	C. BE- LIEVED AB- SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANAL- YSES	A. CONCEN- TRATION	B. MASS	A. LONG TERM AVRG. VALUE	(1) CONCENTRATION	(2) MASS	B. NO OF ANAL- YSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)																
43B. N-Nitro- sodiphenylamine (86-30-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
44B. Phenanthrene (85-01-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
45B. Pyrene (129-00-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
46B. 1,2,4-Tri chlorobenzene (120-82-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
GC/MS FRACTION - PESTICIDES																
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													

**APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED) MO-0098001	OUTFALL NUMBER 011

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG.	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS
METALS, CYANIDE, AND TOTAL PHENOLS												
1M. Antimony, Total (7440-36-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2M. Arsenic, Total (7440-38-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3M. Beryllium, Total (7440-41-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4M. Cadmium, Total (7440-43-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5M. Chromium, Total (7440-47-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6M. Copper, Total (7550-50-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7M. Lead, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8M. Mercury, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9M. Nickel, Total (7440-02-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10M. Selenium, Total (7782-49-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11M. Silver, Total (7440-22-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12M. Thallium, Total (7440-28-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13M. Zinc, Total (7440-66-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14M. Cyanide, Total (57-12-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15M. Phenols, Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
DIOXIN												
2,3,7,8 - Tetra - chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

DESCRIBE RESULTS

CONTINUED FROM PAGE 3

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)			
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS												
1V. Acrolein (107-02-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2V. Acrylonitrile (107-13-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3V. Benzene (71-43-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4V. Bis (Chloromethyl) Ether (542-88-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5V. Bromoform (75-25-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6V. Carbon Tetrachloride (56-23-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7V. Chlorobenzene (108-90-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8V. Chlorodibromomethane (124-48-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9V. Chloroethane (75-00-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11V. Chloroform (67-66-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12V. Dichlorobromomethane (75-27-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14V. 1,1 - Dichloroethane (75-34-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15V. 1,2 - Dichloroethane (107-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
16V. 1,1 - Dichloroethylene (75-35-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
17V. 1,2 - Dichloropropane (78-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
18V. 1,2 -Dichloropropylene (542-75-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
19V. Ethylbenzene (100-41-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
20V. Methyl Bromide (74-83-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
21V. Methyl Chloride (74-87-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT (if available)			4. UNITS			5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BE- LIEVED PRE- SENT	C. BE- LIEVED AB- SENT	A. MAXIMUM DAILY VALUE		D. NO. OF ANAL- YSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	B. NO OF ANAL- YSES	
				(1) CONCENTRATION	(2) MASS					(1) CONCENTRATION	(2) MASS
GC/MS FRACTION – VOLATILE COMPOUNDS (continued)											
22V. Methylene Chloride (75-09-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
23V. 1,1,2,2 – Tetra- chloroethane (79-34-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
24V. Tetrachloroethylene (127-18-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
25V. Toluene (108-88-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
26V. 1,2 – Trans Dichloroethylene (156-60-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
27V. 1,1,1 – Tri – chloroethane (71-55-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
28V. 1,1,2 – Tri- chloroethane (79-00-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
29V. Trichloro – ethylene (79-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
30V. Trichloro – fluoromethane (75-69-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
31V. Vinyl Chloride (75-01-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
GC/MS FRACTION – ACID COMPOUNDS											
1A. 2 – Chlorophenol (95-57-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
2A. 2,4 – Dichloro – phenol (120-83-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3A. 2,4 – Dimethyl – phenol (105-67-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
4A. 4,6 – Dinitro - O- Cresol (534-52-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
5A. 2,4 – Dinitro – phenol (51-28-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
6A. 2-Nitrophenol (88-75-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
7A. 4-Nitrophenol (100-02-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
8A. P – Chloro – M Cresol (59-50-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
9A. Pentachloro – phenol (87-86-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
10A. Phenol (108-952)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
11A. 2,4,6 – Trichloro- phenol (88-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS			5. INTAKE (optional)			
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCEN- TRATION	B. MASS	A. LONG TERM AVRG. VALUE	(1) CONCENTRATION	(2) MASS	B. NO OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS																
1B. Acenaphthene (63-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
2B. Acenaphthylene (208-96-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
3B. Anthracene (120-12-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
4B. Benzidine (92-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
5B. Benzo (a) Anthracene (56-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
6B. Benzo (a) Pyrene (50-32-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
7B. 3,4 - Benzofluoranthene (205-99-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
8B. Benzo (ghi) Perylene (191-24-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
9B. Benzo (k) Fluoranthene (207-08-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
15B. Butyl Benzyl Phthalate (85-68-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
16B. 2-Chloronaphthalene (91-58-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
18B. Chrysene (218-01-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
20B. 1,2 - Dichlorobenzene (95-50-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
21B. 1,3 - Dichlorobenzene (541-73-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
011

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS			5. INTAKE (optional)			
	A. TESTING REQUIRED	B. RELIEVED PRESENT	C. RELIEVED ABSENT	A. MAXIMUM DAILY VALUE	B. MAXIMUM 30 DAY VALUE	C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)														
22B. 1, 4-Dichlorobenzene (105-46-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
23B. 3, 3'-Dichlorobenzidine (91-94-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
24B. Diethyl Phthalate (84-66-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
25B. Dimethyl Phthalate (131-11-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
26B. Di-N-butyl Phthalate (84-74-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
27B. 2, 4-Dinitrotoluene (121-14-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
28B. 2, 6-Dinitrotoluene (606-20-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
29B. Di-N-Octyl Phthalate (117-84-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
30B. 1, 2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
31B. Fluoranthene (206-44-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
32B. Fluorene (86-73-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
33B. Hexachlorobenzene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
34B. Hexachlorobutadiene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
35B. Hexachloro-cyclopentadiene (77-47-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
36B. Hexachloroethane (67-72-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
38B. Isophorone (78-59-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
39B. Naphthalene (91-20-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
40B. Nitrobenzene (98-95-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
41B. N-Nitrosodimethylamine (62-75-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
42B. N-Nitroso N-Propylamine (621-64-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)											
43B. N-Nitrosodiphenylamine (86-30-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
44B. Phenanthrene (85-01-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
45B. Pyrene (129-00-0)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
46B. 1,2,4-Tri chlorobenzene (120-82-1)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
GC/MS FRACTION - PESTICIDES											
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

**APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED) MO-0098001	OUTFALL NUMBER 012

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)					
	A. TESTING REQUIRED	B. BELIEVED TO BE SENT	C. BELIEVED TO BE SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. MASS	A. CONCENTRATION	B. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION
METALS, CYANIDE, AND TOTAL PHENOLS														
1M. Antimony, Total (7440-36-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
2M. Arsenic, Total (7440-38-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
3M. Beryllium, Total (7440-41-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
4M. Cadmium, Total (7440-43-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
5M. Chromium, Total (7440-47-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
6M. Copper, Total (7550-50-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
7M. Lead, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
8M. Mercury, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
9M. Nickel, Total (7440-02-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
10M. Selenium, Total (7782-49-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
11M. Silver, Total (7440-22-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
12M. Thallium, Total (7440-28-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
13M. Zinc, Total (7440-66-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
14M. Cyanide, Total (57-12-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
15M. Phenols, Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
DIOXIN														
2,3,7,8 – Tetra – chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											

DESCRIBE RESULTS

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		B. NO OF ANALYSES	
	A. TESTING REQUIRED	B. BELIEVED PRE-SENT	C. BELIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		A. LONG TERM AVRG. VALUE	(1) CONCENTRATION		(2) MASS
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				
GC/MS FRACTION - VOLATILE COMPOUNDS													
1V. Acrolein (107-02-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
2V. Acrylonitrile (107-13-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
3V. Benzene (71-43-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
4V. Bis (Chloromethyl) Ether (542-88-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
5V. Bromoform (75-25-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
6V. Carbon Tetrachloride (56-23-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
7V. Chlorobenzene (108-90-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
8V. Chlorodibromomethane (124-48-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
9V. Chloroethane (75-00-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
11V. Chloroform (67-66-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
12V. Dichlorobromomethane (75-27-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
14V. 1,1 - Dichloroethane (75-34-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
15V. 1,2 - Dichloroethane (107-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
16V. 1,1 - Dichloroethylene (75-35-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
17V. 1,2 - Dichloropropane (78-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
18V. 1,2 -Dichloropropylene (542-75-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
19V. Ethylbenzene (100-41-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
20V. Methyl Bromide (74-83-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
21V. Methyl Chloride (74-87-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
012

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		B. NO OF ANAL. YSES	
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	B. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	A. CONCENTRATION	B. MASS		A. LONG TERM AVRG. VALUE (1) CONCENTRATION
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)													
22V. Methylene Chloride (75-09-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
23V. 1,1,2,2 - Tetra-chloroethane (79-34-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
24V. Tetrachloroethylene (127-18-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
25V. Toluene (108-88-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
26V. 1,2 - Trans Dichloroethylene (156-60-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
27V. 1,1,1 - Tri-chloroethane (71-55-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
28V. 1,1,2 - Tri-chloroethane (79-00-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
29V. Trichloro-ethylene (79-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
30V. Trichloro-fluoromethane (75-69-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
31V. Vinyl Chloride (75-01-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
GC/MS FRACTION - ACID COMPOUNDS													
1A. 2 - Chlorophenol (95-57-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
2A. 2,4 - Dichloro-phenol (120-83-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
3A. 2,4 - Dimethyl-phenol (105-67-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
4A. 4,6 - Dinitro - O-Cresol (534-52-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
5A. 2,4 - Dinitro-phenol (51-28-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
6A. 2-Nitrophenol (88-75-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
7A. 4-Nitrophenol (100-02-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
8A. p - Chloro - M Cresol (59-50-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
9A. Pentachloro-phenol (87-86-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
10A. Phenol (108-95-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
11A. 2,4,6 - Trichloro-phenol (88-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)				
	A. TESTING REQUIRED	B. BELIEVED PRE-SENT	C. BELIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANAL. YSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	(1) CONCENTRATION	(2) MASS	B. NO OF ANAL. YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS							
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS																
1B. Acenaphthene (83-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
2B. Acenaphthylene (208-96-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
3B. Anthracene (120-12-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
4B. Benzidine (92-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
5B. Benzo (a) Anthracene (56-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
6B. Benzo (a) Pyrene (50-32-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
7B. 3,4 - Benzofluoranthene (205-99-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
8B. Benzo (ghi) Perylene (191-24-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
9B. Benzo (k) Fluoranthene (207-08-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
15B. Butyl Benzyl Phthalate (85-68-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
16B. 2-Chloronaphthalene (91-58-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
18B. Chrysene (218-01-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
20B. 1,2 - Dichlorobenzene (95-50-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
21B. 1,3 - Dichlorobenzene (541-73-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
012

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT			4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BE-USED PRE-SENT	C. BE-USED AS SENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	B. MAXIMUM 30 DAY VALUE (2) MASS	C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	B. NO OF ANAL-YSES (2) MASS
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)											
22B. 1,4-Dichlorobenzene (106-46-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
23B. 3,3'-Dichlorobenzidine (91-94-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
24B. Diethyl Phthalate (84-86-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
25B. Dimethyl Phthalate (131-11-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
26B. Di-N-butyl Phthalate (84-74-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
27B. 2,4-Dinitrotoluene (121-14-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
28B. 2,6-Dinitrotoluene (606-20-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
29B. Di-N-Octyl Phthalate (117-84-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
31B. Fluoranthene (206-44-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
32B. Fluorene (86-73-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
33B. Hexachlorobenzene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
34B. Hexachlorobutadiene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
35B. Hexachloro-cyclopentadiene (77-47-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
36B. Hexachloroethane (67-72-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
38B. Isophorone (78-59-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
39B. Naphthalene (91-20-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
40B. Nitrobenzene (98-95-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
41B. N-Nitrosodimethylamine (62-75-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
42B. N-Nitroso N-Propylamine (621-64-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE: (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRE-SENT	C. BELIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE	B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)														
43B. N-Nitro-sodiphenylamine (86-30-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
44B. Phenanthrene (85-01-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
45B. Pyrene (129-00-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
46B. 1,2,4-Tri chlorobenzene (120-82-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
GC/MS FRACTION - PESTICIDES														
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											

**APPLICATION FOR DISCHARGE PERMIT
FORM D - PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED) MO-0098001	OUTFALL NUMBER 014

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)				
	A. TEST-ING REQUIRED	B. BELIEVED PRE-SENT	C. BELIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)	D. NO. OF ANAL-YSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANAL-YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS														
1M. Antimony, Total (7440-36-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
2M. Arsenic, Total (7440-38-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
3M. Beryllium, Total (7440-41-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
4M. Cadmium, Total (7440-43-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
5M. Chromium, Total (7440-47-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
6M. Copper, Total (7550-50-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
7M. Lead, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
8M. Mercury, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
9M. Nickel, Total (7440-02-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
10M. Selenium, Total (7782-49-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
11M. Silver, Total (7440-22-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
12M. Thallium, Total (7440-28-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
13M. Zinc, Total (7440-66-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
14M. Cyanide, Total (57-12-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
15M. Phenols, Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
DIOXIN														
2,3,7,8 - Tetra - chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											

DESCRIBE RESULTS

CONTINUED FROM PAGE 3

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)			
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
GC/MS FRACTION - VOLATILE COMPOUNDS												
1V. Acrolein (107-02-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2V. Acrylonitrile (107-13-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3V. Benzene (71-43-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4V. Bis (Chloromethyl) Ether (542-88-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5V. Bromoform (75-25-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6V. Carbon Tetrachloride (56-23-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7V. Chlorobenzene (108-90-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8V. Chlorodibromomethane (124-48-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9V. Chloroethane (75-00-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11V. Chloroform (67-66-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12V. Dichlorobromomethane (75-27-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14V. 1,1 - Dichloroethane (75-34-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15V. 1,2 - Dichloroethane (107-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
16V. 1,1 - Dichloroethylene (75-35-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
17V. 1,2 - Dichloropropane (78-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
18V. 1,2 - Dichloropropylene (542-75-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
19V. Ethylbenzene (100-41-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
20V. Methyl Bromide (74-83-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
21V. Methyl Chloride (74-87-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)	
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MASS		A. LONG TERM AVRG.		
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)										
22V. Methylene Chloride (75-09-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
24V. Tetrachloroethylene (127-18-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
25V. Toluene (108-88-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
26V. 1,2-Trans Dichloroethylene (156-60-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
27V. 1,1,1-Tri-chloroethane (71-55-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
28V. 1,1,2-Tri-chloroethane (79-00-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
29V. Trichloro-ethylene (79-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
30V. Trichloro-fluoromethane (75-69-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
31V. Vinyl Chloride (75-01-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

GC/MS FRACTION - ACID COMPOUNDS

1A. 2-Chlorophenol (95-57-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
2A. 2,4-Dichloro-phenol (120-83-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
3A. 2,4-Dimethyl-phenol (105-67-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
4A. 4,6-Dinitro-O-Cresol (534-52-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
5A. 2,4-Dinitro-phenol (51-28-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
6A. 2-Nitrophenol (88-75-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
7A. 4-Nitrophenol (100-02-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
8A. P-Chloro-M-Cresol (59-50-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
9A. Pentachloro-phenol (87-86-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
10A. Phenol (108-952)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
11A. 2,4,6-Trichloro-phenol (88-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

NPDES # (IF ASSIGNED) MO-0098001

OUTFALL NUMBER 014

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. USED PRE-SENT	C. USED PRE-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE		D. NO. OF ANALYSES	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS												
1B. Acenaphthene (83-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2B. Acenaphthylene (208-96-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3B. Anthracene (120-12-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4B. Benzidine (92-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5B. Benzo (a) Anthracene (56-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6B. Benzo (a) Pyrene (50-32-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7B. 3,4 - Benzofluoranthene (205-99-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8B. Benzo (ghi) Perylene (191-24-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9B. Benzo (k) Fluoranthene (207-08-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15B. Butyl Benzyl Phthalate (85-68-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
16B. 2-Chloronaphthalene (91-58-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
18B. Chrysene (218-01-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
20B. 1,2 - Dichlorobenzene (95-50-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
21B. 1,3 - Dichlorobenzene (5411-73-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
014

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS			5. INTAKE (optional)			
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCEN- TRATION	B. MASS	A. LONG TERM AVRG. VALUE	(1) CONCENTRATION	(2) MASS	B. NO OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)																
22B. 1, 4-Dichlorobenzene (106-46-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
23B. 3, 3'-Dichlorobenzidine (91-94-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
24B. Diethyl Phthalate (84-66-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
25B. Dimethyl Phthalate (131-11-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
26B. Di-N-butyl Phthalate (84-74-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
27B. 2, 4-Dinitrotoluene (121-14-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
28B. 2, 6-Dinitrotoluene (606-20-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
29B. Di-N-Octyl Phthalate (117-84-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
30B. 1, 2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
31B. Fluoranthene (206-44-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
32B. Fluorene (86-73-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
33B. Hexachlorobenzene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
34B. Hexachlorobutadiene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
35B. Hexachloro-cyclopentadiene (77-47-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
36B. Hexachloroethane (67-72-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
38B. Isophorone (78-59-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
39B. Naphthalene (91-20-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
40B. Nitrobenzene (98-95-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
41B. N-Nitro-sodimethylamine (62-75-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
42B. N-Nitroso N-Propylamine (621-64-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BE- LIEVED PRE-SENT	C. BE- LIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		D. NO. OF ANAL- YSES	A. LONG TERM AVRG. VALUE	B. NO OF ANAL- YSES	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)											
43B. N-Nitro- sodiphenylamine (86-30-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
44B. Phenanthrene (85-01-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
45B. Pyrene (129-00-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
46B. 1,2,4-Tri chlorobenzene (120-82-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
GC/MS FRACTION - PESTICIDES											
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

**APPLICATION FOR DISCHARGE PERMIT
FORM D - PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED) MO-0098001	OUTFALL NUMBER 015

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT			4. UNITS			5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE	B. MAXIMUM 30 DAY VALUE (if available)	C. LONG TERM AVRG. VALUE (if available)	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	(1) CONCENTRATION	(2) MASS	
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	D. NO. OF ANALYSES	
METALS, CYANIDE, AND TOTAL PHENOLS												
1M. Antimony, Total (7440-36-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2M. Arsenic, Total (7440-38-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3M. Beryllium, Total (7440-41-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4M. Cadmium, Total (7440-43-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5M. Chromium, Total (7440-47-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6M. Copper, Total (7550-50-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7M. Lead, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8M. Mercury, Total (7439-97-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9M. Nickel, Total (7440-02-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10M. Selenium, Total (7782-49-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11M. Silver, Total (7440-22-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
12M. Thallium, Total (7440-28-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
13M. Zinc, Total (7440-66-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
14M. Cyanide, Total (57-12-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
15M. Phenols, Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
DIOXIN												
2,3,7,8 - Tetra - chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

DESCRIBE RESULTS

CONTINUED FROM PAGE 3

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT			4. UNITS			5. INTAKE (optional)	
	A. TESTING REQUIRED	B. BE LINED PRE-SENT	C. BE LINED PRE-SENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	B. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	C. LONG TERM AVRG. VALUE (1) CONCENTRATION	D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	B. NO. OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS											
1V. Acrolein (107-02-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
2V. Acrylonitrile (107-13-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
3V. Benzene (71-43-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
4V. Bis (Chloromethyl) Ether (542-88-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
5V. Bromoform (75-25-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
6V. Carbon Tetrachloride (56-23-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
7V. Chlorobenzene (108-90-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
8V. Chlorodibromomethane (124-48-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
9V. Chloroethane (75-00-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
11V. Chloroform (67-66-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
12V. Dichlorobromomethane (75-27-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
14V. 1,1 - Dichloroethane (75-34-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
15V. 1,2 - Dichloroethane (107-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
16V. 1,1 - Dichloroethylene (75-35-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
17V. 1,2 - Dichloropropane (78-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
18V. 1,2-Dichloropropylene (542-75-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
19V. Ethylbenzene (100-41-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
20V. Methyl Bromide (74-83-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
21V. Methyl Chloride (74-87-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

NPDES # (IF ASSIGNED) **MO-0098001** **OUTFALL NUMBER 015**

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)			
	A. TEST-ING REQUIRED	B. BE- LIEVED PRE-SENT	C. BE- LIEVED PRE-SENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	B. MAXIMUM 30 DAY VALUE (2) MASS	C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	A. CONCEN- TRATION	B. MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	B. NO OF ANAL- YSES
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)												
22V. Methylene Chloride (75-09-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
23V. 1,1,2,2 - Tetra- chloroethane (79-34-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
24V. Tetrachloroethylene (127-18-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
25V. Toluene (108-88-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
26V. 1,2 - Trans Dichloroethylene (156-60-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
27V. 1,1,1 - Tri - chloroethane (71-55-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
28V. 1,1,2 - Tri- chloroethane (79-00-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
29V. Trichloro - ethylene (79-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
30V. Trichloro - fluoromethane (75-69-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
31V. Vinyl Chloride (75-01-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

GC/MS FRACTION - ACID COMPOUNDS

1A. 2 - Chlorophenol (95-57-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
2A. 2,4 - Dichloro - phenol (120-83-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
3A. 2,4 - Dimethyl - phenol (105-67-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
4A. 4,6 - Dinitro - O- Cresol (534-52-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
5A. 2,4 - Dinitro - phenol (51-28-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
6A. 2-Nitrophenol (88-75-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
7A. 4-Nitrophenol (100-02-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
8A. P - Chloro - M Cresol (59-50-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
9A. Pentachloro - phenol (87-86-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
10A. Phenol (108-952)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
11A. 2,4,6 - Trichloro- phenol (88-06-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		B. NO OF ANALYSES		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS		A. LONG TERM AVG. VALUE (1) CONCENTRATION	(2) MASS
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS						
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS													
1B. Acenaphthene (83-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
2B. Acenaphthylene (208-96-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
3B. Anthracene (120-12-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
4B. Benzidine (92-87-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
5B. Benzo (a) Anthracene (56-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
6B. Benzo (a) Pyrene (50-32-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
7B. 3,4 - Benzofluoranthene (205-99-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
8B. Benzo (ghi) Perylene (191-24-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
9B. Benzo (k) Fluoranthene (207-08-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
15B. Butyl Benzyl Phthalate (85-68-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
16B. 2-Chloronaphthalene (91-58-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
18B. Chrysene (218-01-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
20B. 1,2 - Dichlorobenzene (95-50-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
21B. 1,3 - Dichlorobenzene (541-73-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)

MO-0098001

OUTFALL NUMBER

015

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)				
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	B. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	D. NO. OF ANALYSES	B. NO. OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)													
22B. 1, 4-Dichlorobenzene (106-46-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
23B. 3, 3'-Dichlorobenzidine (91-94-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
24B. Diethyl Phthalate (84-66-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
25B. Dimethyl Phthalate (131-11-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
26B. Di-N-butyl Phthalate (84-74-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
27B. 2,4-Dinitrotoluene (121-14-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
28B. 2,6-Dinitrotoluene (606-20-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
29B. Di-N-Octyl Phthalate (117-84-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
31B. Fluoranthene (206-44-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
32B. Fluorene (86-73-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
33B. Hexachlorobenzene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
34B. Hexachlorobutadiene (87-68-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
35B. Hexachloro-cyclopentadiene (77-47-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
36B. Hexachloroethane (67-72-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
38B. Isophorone (78-59-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
39B. Naphthalene (91-20-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
40B. Nitrobenzene (98-95-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
41B. N-Nitrosodimethylamine (62-75-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
42B. N-Nitroso N-Propylamine (621-64-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT						4. UNITS		5. INTAKE (optional)		
	A. TEST-ING REQUIRED	B. BE-LIEVED PRE-SENT	C. BE-LIEVED AB-SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANAL-YSES	A. LONG TERM AVRG. VALUE	B. NO OF ANAL-YSES	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)													
43B. N-Nitro-souphenylamine (86-30-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
44B. Phenanthrene (85-01-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
45B. Pyrene (129-00-0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
GC/MS FRACTION - PESTICIDES													
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										

**APPLICATION FOR DISCHARGE PERMIT
FORM D - PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED)	OUTFALL NUMBER
MO-0098001	016

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)	
	A. TEST-ING REQUIRED	B. BE-LIEVED PRE-SENT	C. BE-LIEVED AB-SENT	A. MAXIMUM DAILY VALUE		C. LONG TERM AVRG. VALUE (if available)		A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG.	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			(1) CONCENTRATION	(2) MASS
METALS, CYANIDE, AND TOTAL PHENOLS											
1M. Antimony, Total (7440-36-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042			UG/L	LBS/D		
2M. Arsenic, Total (7440-39-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083			UG/L	LBS/D		
3M. Beryllium, Total (7440-41-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.5	<0.004			UG/L	LBS/D		
4M. Cadmium, Total (7440-43-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.5	<0.004			UG/L	LBS/D		
5M. Chromium, Total (7440-47-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083			UG/L	LBS/D		
6M. Copper, Total (7550-50-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.5	0.029			UG/L	LBS/D		
7M. Lead, Total (7439-97-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<3.0	<0.025			UG/L	LBS/D		
8M. Mercury, Total (7439-97-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.2	<0.002			UG/L	LBS/D		
9M. Nickel, Total (7440-02-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042			UG/L	LBS/D		
10M. Selenium, Total (7782-49-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042			UG/L	LBS/D		
11M. Silver, Total (7440-22-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.1	<0.001			UG/L	LBS/D		
12M. Thallium, Total (7440-28-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<2.0	<0.010			UG/L	LBS/D		
13M. Zinc, Total (7440-66-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12	0.10			UG/L	LBS/D		
14M. Cyanide, Total (57-12-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042			UG/L	LBS/D		
15M. Phenols, Total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<50	<0.42			UG/L	LBS/D		
DIOXIN											
2,3,7,8 - Tetra - chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

CONTINUED FROM PAGE 3

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS			5. INTAKE (optional)		
	A. TEST METHOD USED	B. BELIEVED TO BE SERVED	C. BELIEVED TO BE SERVED	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	
GCMS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<50	<0.42					UG/L	LBS/D		1		
2V. Acrylonitrile (107-13-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<50	<0.42					UG/L	LBS/D		1		
3V. Benzene (71-43-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
4V. Bis (Chloromethyl) Ether (542-88-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					UG/L	LBS/D		1		
5V. Bromoform (75-25-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
6V. Carbon Tetrachloride (56-23-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
7V. Chlorobenzene (108-90-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
8V. Chlorodibromomethane (124-48-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
9V. Chloroethane (75-00-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					UG/L	LBS/D		1		
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
11V. Chloroform (67-66-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
12V. Dichlorobromomethane (75-27-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
13V. Dichlorodifluoromethane (75-71-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*						UG/L	LBS/D		1		
14V. 1,1 - Dichloroethane (75-34-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
15V. 1,2 - Dichloroethane (107-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
16V. 1,1 - Dichloroethylene (75-35-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
17V. 1,2 - Dichloropropane (78-67-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
18V. 1,2 - Dichloropropylene (542-75-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0**	<0.042					UG/L	LBS/D		1		
19V. Ethylbenzene (100-41-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<5.0	<0.042					UG/L	LBS/D		1		
20V. Methyl Bromide (74-83-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					UG/L	LBS/D		1		
21V. Methyl Chloride (74-87-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					UG/L	LBS/D		1		

N10 781-1516 (6-84)

PAGE 3

CONTINUE ON PAGE 4

* This parameter was deleted per 40 CFR, Part 122, Appendix D.

** This parameter is 1,3 Dichloropropylene per 40 CFR, Part 122, Appendix D.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optical)		
	A. TESTING REQUIRED	B. BE USED PRE-SENT	C. BE USED AB-SENT	A. MAXIMUM DAILY VALUE	B. MAXIMUM 30 DAY VALUE (if available)	G. LONG TERM AVRG. VALUE (if available)	D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(3) CONCENTRATION	(4) MASS	(5) CONCENTRATION	(6) MASS	(7) CONCENTRATION	(8) MASS	(9) CONCENTRATION	(10) MASS	(11) CONCENTRATION
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)											
22V. Methylene Chloride (75-09-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.042			1	UG/L	LBS/D		
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.042			1	UG/L	LBS/D		
24V. Tetrachloroethylene (127-18-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.042			1	UG/L	LBS/D		
25V. Toluene (108-88-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.042			1	UG/L	LBS/D		
26V. 1,2-Trans Dichloroethylene (156-60-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.042			1	UG/L	LBS/D		
27V. 1,1,1-Trichloroethane (71-55-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.042			1	UG/L	LBS/D		
28V. 1,1,2-Trichloroethane (79-00-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.042			1	UG/L	LBS/D		
29V. Trichloro-ethylene (79-01-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.042			1	UG/L	LBS/D		
30V. Trichloro-fluoromethane (75-69-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	***			1	UG/L	LBS/D		
31V. Vinyl Chloride (75-01-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<0.042			1	UG/L	LBS/D		

GC/MS FRACTION - ACID COMPOUNDS											
1A. 2-Chlorophenol (95-57-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		
2A. 2,4-Dichloro-phenol (120-83-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		
3A. 2,4-Dimethyl-phenol (105-67-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		
4A. 4,6-Dinitro-O-Cresol (534-52-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		
5A. 2,4-Dinitro-phenol (51-28-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<51			1	UG/L	LBS/D		
6A. 2-Nitrophenol (88-75-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		
7A. 4-Nitrophenol (100-02-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		
8A. p-Chloro-M-Cresol (59-50-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		
9A. Pentachloro-phenol (87-86-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		
10A. Phenol (108-95-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		
11A. 2,4,6-Trichloro-phenol (88-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10			1	UG/L	LBS/D		

*** Trichlorofluoromethane has been deleted per 40 CFR, Part 122, Appendix D.

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS		5. INTAKE (optional)			
	A. TESTS IMPROVED DURING	B. BE- LINED SPIN SEAT	C. BE- LINED SPIN SUBT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVRG. VALUE		D. NO. OF ANAL- YSES	A. LONG TERM AVRG. VALUE	B. NO OF ANAL- YSES	
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASENEUTRAL COMPOUNDS													
1B. Acenaphthene (83-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
2B. Acenaphthylene (208-96-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
3B. Anthracene (120-12-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
4B. Benzidine (92-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<100	<0.83					1	UG/L	LBS/D	
5B. Benzo (a) Anthracene (56-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
6B. Benzo (a) Pyrene (50-32-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
7B. 3,4 - Benzofluoranthene (205-99-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
8B. Benzo (ghi) Perylene (191-24-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
9B. Benzo (k) Fluoranthene (207-08-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
15B. Butyl Benzyl Phthalate (85-68-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
16B. 2-Chloronaphthalene (91-58-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
18B. Chrysene (218-01-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
20B. 1,2 - Dichlorobenzene (95-50-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	
21B. 1,3 - Dichlorobenzene (541-73-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083					1	UG/L	LBS/D	

CONTINUE ON PAGE 6

PAGE 5

NIO TRM 151C (6-84)

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)
MO-0098001

OUTFALL NUMBER
016

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT			4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (1) CONCENTRATION	B. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	C. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE (1) CONCENTRATION	B. NO. OF ANALYSES
	(2) MASS	(2) MASS	(2) MASS	(2) MASS	(2) MASS	(2) MASS	(2) MASS	(1) CONCENTRATION	(2) MASS	(2) MASS	(2) MASS
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)											
22B. 1, 4-Dichlorobenzene (106-46-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
23B. 3, 3'-Dichlorobenzidine (91-94-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<51	<0.43		1	UG/L	LBS/D		
24B. Diethyl Phthalate (84-86-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
25B. Dimethyl Phthalate (131-11-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
26B. Di-N-butyl Phthalate (84-74-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
27B. 2, 4-Dinitrotoluene (121-14-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
28B. 2, 6-Dinitrotoluene (806-20-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
29B. Di-N-Octyl Phthalate (117-84-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
30B. 1, 2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
31B. Fluoranthene (206-44-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
32B. Fluorene (86-73-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
33B. Hexachlorobenzene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
34B. Hexachlorobutadiene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
35B. Hexachloro-cyclopentadiene (77-47-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
36B. Hexachloroethane (67-72-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
38B. Isophorone (78-59-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
39B. Naphthalene (91-20-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
40B. Nitrobenzene (98-95-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
41B. N-Nitrosodimethylamine (62-75-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		
42B. N-Nitroso N-Propylamine (621-64-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083		1	UG/L	LBS/D		

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT				4. UNITS			5. INTAKE (optional)					
	A. TESTING REQUIRED	B. RE-TESTING REQUIRED	C. RE-TESTING REQUIRED	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)			A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	B. NO. OF ANALYSES		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) ANALYSES	(2) ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)																
43B. N-Nitrosodiphenylamine (86-30-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083							UG/L	LBS/D		1	
44B. Phenanthrene (85-01-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083							UG/L	LBS/D		1	
45B. Pyrene (129-00-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083							UG/L	LBS/D		1	
46B. 1,2,4-Trichlorobenzene (120-82-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<10	<0.083							UG/L	LBS/D		1	
GC/MS FRACTION - PESTICIDES																
1P. Aldrin (309-00-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
2P. α-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
3P. β-BHC (319-84-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
4P. γ-BHC (58-89-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
5P. δ-BHC (319-86-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
6P. Chlordane (57-74-9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>													X
7P. 4,4'-DDT (50-29-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
8P. 4,4'-DDE (72-55-9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
9P. 4,4'-DDD (72-54-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
10P. Dieldrin (60-57-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
11P. α-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
12P. β-Endosulfan (115-29-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
13P. Endosulfan Sulfate (1031-07-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
14P. Endrin (72-20-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
15P. Endrin Aldehyde (7421-93-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													
16P. Heptachlor (76-44-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>													

ATTACHMENT A
Description of Outfalls

001 - Radwaste Treatment System

This system serves to collect, process, store, recycle, and dispose of liquid radioactive waste generated at Callaway Energy Center. Five general sub-systems can be defined as described below:

The **Boron Recycle System** receives reactor coolant for the purpose of processing this waste stream for discharge. Boric acid is used as a neutron absorber in the primary system.

The boron concentration can vary substantially in Outfall 001 based on plant operation. Also the ion exchange resin utilized in the radwaste treatment system can become rapidly saturated with boron allowing boron to pass through the treatment demineralizers. Therefore, processing of liquid radwaste by demineralization could result in up to 1000 mg/l of boron being discharged in Outfall 001. This has been noted in past NPDES Permit Reapplications for Callaway Energy Center. Although the boron concentration in this Outfall may reach 1000 mg/l in the Discharge Monitor Tank (sample point prior to discharge), this waste stream is routed to the plant discharge line, where it mixes with a minimal flow of 3,000 gpm as required by the plants Nuclear Regulatory Commission operating license. However, with administrative controls the dilution flow is maintained greater than 5,000 gpm allowing the final effluent at the point of discharge into the Missouri River to contain less than 50 mg/l of boron.

The **Liquid Radwaste System** collects and processes floor and equipment drains from the containment, auxiliary building, fuel building, and radwaste buildings during normal operation. However, during outages, non-radioactive drainage from equipment in these buildings may be treated by the Oily Waste System as described in Attachment C.

The **Laundry and Hot Shower** system collects waste generated from washing radioactively contaminated protective gear and clothing and personnel decontamination shower wastewater. These wastes are then transferred to the liquid Radwaste system for treatment.

The **Secondary Liquid Waste** system is used to process condensate demineralizer regeneration wastes and potentially radioactive liquid waste collected from the turbine building. The condensate demineralizer regeneration waste is divided into two waste streams; High TDS waste from the acid and caustic rinses used when chemically regenerating spent resin, and low TDS waste which results from the initial back-flushing of the unregenerated resin and the final rinsing of the regenerated resin to remove acid and caustic.

Steam Generator Blowdown is normally recycled to the main condenser for reuse in the secondary cycle. Provisions also exist to discharge the treated blowdown via Outfall 001 although this has not been done in the last twenty-five years.

It should be noted that the radwaste treatment system is specifically designed for flexibility to achieve Nuclear Regulatory Commission (NRC) limitations. Actual treatment for any given batch of wastewater is dictated by the following criteria.

1. The level of radiological contamination and the corresponding NRC mandated discharge criteria.
2. The NPDES permit discharge limitations.
3. The most effective waste treatment scheme that will give the smallest volume of solid radwaste.
4. Overall wastestream management - processing and holdup rates, volumes of other wastestreams requiring treatment or storage, etc.
5. The need, feasibility, and economics of the recycle versus discharge options.

The following wastewater treatment systems are used as required to treat this waste stream for recycle or discharge in compliance with NRC requirements and are also available as auxiliary or backup treatment systems to treat this discharge for compliance with NPDES permit limitations: Evaporation and/or Mixing and/or Filtration and/or Carbon Adsorption and/or Ion Exchange and/or Neutralization and/or Reuse/Recycle or Treated Effluent. All processing in the Radwaste Treatment System is done on a batch basis except steam generator blowdown. After monitoring for radioactive content, release rates are controlled administratively to ensure that radioactive discharge criteria are met.

ALPS – Advanced Liquid Processing System is a permanently installed vendor provided skid used for treatment of liquid radioactive waste. This skid consists of six vessels and a filter housing. These components may contain various resin mixtures, charcoal adsorption media and/or filter media to provide optimum treatment for the specific wastewater being processed (shown on the Flow Diagram and Water Balance).

002 - Cooling Tower Blowdown

A cooling tower is utilized to dissipate excess heat to the atmosphere from the Circulating and Service Water Systems. Outfall 002 is designated as the cooling tower blowdown discharge. Blowdown from the cooling tower is necessary to maintain dissolved solids concentration in the recirculating water within acceptable operating limits.

003 - Water Treatment Plant Wastes

The water treatment plant (WTP) supplies clarified river water for cooling tower makeup and other plant cooling water systems. The suspended material that is removed from the river water is drawn from the bottom of the clarifiers as sludge. This sludge is routed through a sedimentation lagoon for solids removal. A single sedimentation lagoon is utilized; sedimentation lagoon #4 was constructed in the fall of 2000 (construction permit # MO-26-3351). Demineralizer system waste streams and oil separator discharges are also routed to

sedimentation lagoon #4. Sedimentation lagoon #3 receives water from the demineralizer waste sump with this flow cascading to lagoon #4. The demineralizer system waste stream (previously a separate discharge point, Outfall 004, which was eliminated during previous permitting) consists of wastes generated from resin regeneration, sand & carbon filter backwash, miscellaneous wastes from floor drainage, and wet well overflows. Note finally, that this lagoon also receives effluent from the Oily Waste Processing System (which also receives effluent from an oil recovery well used to remediate a historic on-site release).

The supernatant from the sedimentation lagoon is designated as Outfall 003. Outfall 003 has been recycled for more than 15 years by routing it back to the head of the water treatment plant via a supernatant pump station.

007 - Sanitary Treatment Lagoons

Outfall 007 is defined as the sanitary wastewater treatment system discharge. Primary treatment is provided in a conventional three-cell stabilization pond. Effluent from the final cell is routed (in series) to two wetland basins. Both are "artificial" (constructed) wetlands created by conversion of filled WTP (sludge) sedimentation lagoons.

The supernatant from the third stabilization pond is designated as Outfall 007. The effluent then flows through two wetlands. The connection from discharge of the final wetland to the supernatant pump station was made in conjunction with the construction of an additional WTP sedimentation lagoon (as described in a previous NPDES Permit reapplication and in the construction permit application). Outfall 007 is recycled by routing it back to the head of the water treatment plant via the WTP supernatant pump station.

Outfall 009 - Intake Heater Blowdown

The river intake structure contains two recirculating electric heaters, which are used to prevent ice formation on the intake bar screens during the winter months. Outfall 009 consists of discharges from the infrequent blowdown or drainage of these boilers. We have not discharged from this outfall in the past twenty-five years. The boilers are currently kept in a dry lay up condition.

Outfall 010 - Storm Water Runoff Settling Pond

The drainage area for the Outfall 010 Settling Pond encompasses a total of 108 acres. Only 15 percent of the drainage area consists of impervious plant site area. These areas include the cooling water chemical control building, the quality control building, the former Unit #2 excavation and an area plant west of the radwaste building. The remaining drainage area consists of grassy areas within the plant boundary and areas leased to the Missouri Department of Conservation (MDC). The pond has a retention time greater than 24 hours. Two 48-inch square overflow boxes are located at the north side of the settling pond. Flow enters the overflow boxes and goes under the earthen pond dam to the actual discharge/sampling location. Metal louvers have been installed on the top opening of the concrete overflow box to prevent large debris from entering the storm water discharge. Outfall 010 discharges to Logan Creek.

Outfall 011 - Storm Water Runoff Settling Pond

The drainage area for the Outfall 011 Settling Pond encompasses a total of 425 acres. Only two percent of the drainage area consists of impervious area on the plant site. These areas include the water treatment plant, radwaste building, operation support facility, demineralizer potable water building and the circulating and service water pumphouse. The remaining drainage area consists of grassy areas, excavation surplus storage, and areas leased to the MDC. The pond has a retention time of less than 24 hours. Two 48-inch square overflow boxes are located on the north side of the settling pond. Flow enters these overflow boxes and goes under the earthen pond dam to the actual discharge/sampling location. Metal louvers have been installed on the top opening of the concrete overflow box to prevent large debris from entering the storm water discharge. Outfall 011 discharges to Logan Creek.

Outfall 012 - Storm Water Runoff Settling Pond

The drainage area for the Outfall 012 Settling Pond encompasses a total of 87 acres. Approximately one fourth of the total drainage area consists of impervious area on the plant site. This outfall collects storm water runoff from most of the plant area including the parking lots, office buildings, part of the switchyard, the turbine building, the outage maintenance facility and the Stores I building. The remaining areas consist of grassy areas. The pond has a retention time of less than 24 hours. A concrete spillway has been constructed at the south side of the settling pond where the actual sampling point is located. Outfall 012 discharges to Mud Creek.

Outfall 014 - Storm Water Runoff Settling Pond

The drainage area for the Outfall 014 Settling Pond encompasses a total of 100 acres. Only four percent of the drainage area consists of impervious areas on the plant site. These areas include, half of the construction parking lot, the Stores II building and the maintenance shop annex. The remaining drainage area consists of grassy areas and land leased to the MDC. The pond has a retention time of less than 24 hours. A concrete spillway has been constructed on the north side of the pond where the actual sampling point is located. Outfall 014 discharges to Auxvasse Creek.

Outfall 015 - Storm Water Runoff Settling Pond

The drainage area for the Outfall 015 Settling Pond encompasses a total of 60 acres. Only one percent of the drainage area consists of impervious areas, which are paved roadways. The remaining area consists of grassy areas and land leased to MDC. The pond has a retention time greater than 24 hours. A concrete spillway has been constructed on the north side of the pond where the actual sampling point is located. Outfall 015 discharges to Auxvasse Creek.

NOTE: The MDC uses a minor portion of the leased land for farming and the remaining land is left in its native state for wildlife habitat.

Outfall 016 - Cooling Tower Bypass

This outfall consists of clarified river water and wastewater that has been recycled through the water treatment plant. It is used to moderate flow through the water treatment plant and to provide carrier water in the discharge line if needed when discharging from Outfall 001.

Outfall 017 - Ultimate Heat Sink

The Ultimate Heat Sink is a cooling pond that can provide cooling water to various plant systems during other than normal conditions. Outfall 017 is the overflow from the Ultimate Heat Sink, to storm water runoff pond settling pond Outfall 011. It is a no discharge outfall.

ATTACHMENT B
Return of River Water

The Callaway Energy Center has four points at which river water is returned back to the river; none are designated as outfalls.

1. **Intake Structure Stilling Basin** - The stilling basin at the intake structure predominately receives water from the excess flow of the intake pumps via the free discharge valve and returns this flow to the river. Other minor contributions include the intake sump discharge and a well used to supply lube water. As this flow is not contaminated with process waste, we believe it constitutes a return of river water.
2. **Intake Line Drainage** - The plant has a 48" diameter line that carries Missouri River water from the intake structure to the plant, which is about five miles away. Infrequently, it is necessary to drain this line. Usually, this only occurs about two or three times a year. The line is drained by opening the free discharge valve and/or the discharge valves for the intake pumps. This allows the water in the line to flow back to the river through the free discharge valve and the de-energized intake pumps. The drainage rate is about the same as the intake rate when the pumps are operating, so it should not pick up any additional solids that may have settled out in the line. Therefore, we believe this intake line drain back flow constitutes a return of river water.
3. **Raw Water Bypass** - This line diverts untreated water from the head of the water treatment plant to the plant discharge line. It is used to release excess water that is pumped from the river. The flow through this line can vary from 0 to 10,000 gallons per minute based on operating requirements. Since the line diverts and returns untreated river water, we believe it constitutes a return of river water.
4. **Downstream River Sampler** - Approximately 1.5 miles downstream of the intake structure is an automatic river water sampler. The sampler pumps from 1 to 2.5 GPM continuously from the river, composites a small sample, and returns the remaining flow to the river. No pollutants are added to this flow so it is our position that this discharge flow is a return of river water.
5. **Intake River Sampler** - An automatic river water sampler is located at the intake structure to provide upstream sample data. This sampler pumps from 1 to 2.5 GPM continuously from the river, composites a small sample, and returns the remaining flow to the river. No pollutants are added to this flow so it is our position that this discharge flow is a return of river water.

ATTACHMENT C
Description of Intermittent Flows

Five of the six conventional outfalls defined in this application can be considered to include intermittent discharges since they process and/or release wastewater intermittently. Each is described below.

ROUTINE RELEASES:

001 - Radwaste Treatment - All of the subsystems described in Attachment A, except Steam Generator Blowdown (SGB), process or release discrete batches of wastewater. The frequency and magnitude of each is variable. The flows from the subsystems accumulate in the Discharge Monitor Tanks (DMTs). The discharge flow rate from the DMTs is relatively constant for each batch. The current system typically produces discharge flows of approximately 250 gpm but may discharge at 450 gpm with 2 pump operation. Only one DMT is discharged each day during normal operation with the maximum daily discharge of less than 100,000 gallons. Only very infrequently during refueling outages it is necessary to discharge two DMTs during one day with a maximum discharge of 190,000 gallons. Approximately seven tanks are discharged per month.

During recovery from major plant outages and other unusual transient conditions, it may be necessary to discharge SGB. The discharge flow rate varies up to 360 gpm resulting in a maximum daily discharge flow of up to 518,400 gallons. Past operation has shown that such discharges occur very infrequently. SGB has not been discharged for more than 25 years. Since this discharge occurs so infrequently, the SGB flow was not included in the maximum flows shown in Form C, Item 2.40. Previous testing of SGB indicates that this wastestream is of equal or higher quality than other, much more routine components of Radwaste Treatment, Outfall 001 effluent.

003 - Water Treatment Plant Wastes - For the past 15 years this outfall has been recycled back to the head of the water treatment plant for reuse so the discharge flow is zero.

007 - Sanitary Wastewater - For more than ten years this outfall has been recycled back to the head of the water treatment plant so the discharge flow is zero.

009 - Intake Heater Blowdown - Discharges from this outfall would only be anticipated in the event of extremely cold weather and are thus seasonal and intermittent. If these heaters were placed in service, it is estimated that blowdown would occur approximately once per week (and amount to less than 100 gallons). At the end of an operating season they would be drained, releasing approximately 6,000 gallons of wastewater. There has been no discharge from this outfall for more than twenty-five years.

016 - Cooling Tower Bypass - Discharges of cooling tower bypass vary considerably. At times discharges may occur only a few times during an entire month. While during some months discharges occur almost daily for approximately 3 hours per day and infrequently the bypass is operated continuously. Cooling tower bypass is used to control cooling tower makeup, assist in maintaining circulating and service water chemistry, and at times provide additional flow to the discharge line during releases from Outfall 001.

DISCHARGES DURING PLANT OUTAGES:

It is necessary to drain many systems during plant outages for inspections and maintenance. In order to ensure that this water is of the same quality as water that is discharged during operation, some additional/alternate monitoring is performed.

When the cooling tower basin, and/or associated lines (between the basin and the power block) are drained, a single grab sample will be obtained and analyzed to verify compliance with Outfall 002 permit limits prior to discharge. This alternate monitoring will be performed since continuous monitoring will not be possible at all times during the draining of these systems.

Various non-radioactive systems in the Auxiliary Building have been drained in the past to floor drains in the Auxiliary Building to allow for inspection and maintenance. The floor drains from the Auxiliary Building are routed to the Radwaste System for processing and treatment. Since it is not necessary to process these non-radioactive liquid wastes through the Radwaste System, at times we divert these non-radioactive drains to the Oily Waste Processing System for treatment prior to being recycled. Recycling of this water also results in trace amounts of chemical in Outfalls 002, 003, and 016, Attachment D, Chemical Usage, Table 1, lists these chemicals.

ATTACHMENT D

Chemical Usage

The various chemical compounds that may occur in the discharges from Callaway Energy Center during normal operation fall into three usage categories.

Bulk Usage

This group of compounds describes chemicals that are added directly to specific water systems for treatment at some regular rate or interval. Table 1 lists these chemicals along with their predominant function and potential discharge points.

Laboratory Reagents

This category consists of a group of compounds stored and used in the five on-site plant laboratories. The predominant characteristic of this group is the relatively low usage, which would result in negligible levels in the effluent. Laboratory reagents may be discharged through the radwaste treatment Outfall 001, and sanitary wastewater in Outfall 007. At the request of the Department, Ameren Missouri will provide an inventory of these chemical compounds.

Other Chemical Compounds

This grouping includes other chemical compounds that may be discharged and are not included in the previous lists. General housekeeping and maintenance chemicals, and erosion/corrosion products or byproducts from the Plant's infrastructure or fuel materials are not individually assessed. However, the Form C and D analytical data should reflect any contributions from routine use of these compounds. Note that 12% sodium hypochlorite identified in Table 1 is also used to clean the intake well periodically. At times, we use 20% hydrochloric acid to clean scale in the well. Less than 1000 gallons of 12% sodium hypochlorite or 20% hydrochloric acid are used annually for intake well cleaning.

**TABLE 1
BULK CHEMICAL USAGE – CALLAWAY**

1.	Ammonium hydroxide - (Reboiler/Aux. boiler) - used for pH control in recirculating water systems; Outfalls 001.
2.	Boric acid - used as a neutron absorber to provide reactivity control and corrosion inhibitor in the primary loop; Outfall 001.
3.	Dispersants - (organic sulfonated copolymers) used to reduce solids deposition in process tanks and plant water systems; Outfalls 001, 002, and 003.
4.	Ethylene Glycol - used as freeze protection in recirculating water systems; Outfalls 001, 003, and 007.
5.	Hydrazine - used for dissolved oxygen control in recirculating water systems; Outfalls 001 and 003.
6.	Hydrogen Peroxide - used as a chemical shock and biocide treatment in water systems; Outfall 001 and 003.
7.	Lithium hydroxide - used for pH control in the primary loop; Outfall 001.
8.	Nitrite/borate products (solutions) - used as corrosion inhibitors in recirculating water systems; Outfalls 001 and 003.
9.	Coagulants - proprietary organic polymers used as coagulants in the water treatment plant; Outfalls 002, 003, & 016.
10.	Sodium hydroxide - used for regenerating demineralizer resins and for pH control in various plant and wastewater systems; Outfalls 001, 003, and 009.
11.	Sodium hypochlorite - used as a biocide in the circulating, service, water treatment, ultimate heat sink, clarifiers, and potable water systems; Outfalls 001, 002, 003, and 016.
12.	Sodium molybdate - used as a corrosion inhibitor in closed water systems; Outfalls 001 and 003.
13.	Sodium tolytriazole or Benzotriazole* - used as a copper corrosion inhibitor; Outfalls 001, 002, and 003.
14.	Sulfuric acid - used for regenerating demineralizer resins and for pH control in various water and wastewater systems; Outfalls 001, 002, 003, and 009.
15.	Monoethanolamine - used as a pH control in closed water systems; Outfalls 001 and 003.
16.	Sodium bromide - used in conjunction with sodium hypochlorite as a biocide in water systems; Outfalls 001, 002, and 003.
17.	Methoxypropylamine (MPA) – used as a pH control agent in closed water systems; Outfalls 001 and 003.
18.	(1-Hydroxyethylidene) diphosphonic acid (HEDP) - used to inhibit calcium carbonate scale formation in water systems and the ultimate heat sink; Outfalls 001, 002, and 003.
19.	Dimethylamide (DMAD) - used as a biopenetrant to improve the efficiency of biocides in controlling bacteria that exist under deposits in piping systems; Outfalls 001, 002, and 003.
20.	Phosphoric Acid or Pyrophosphate - used as a corrosion inhibitor for mild steel in recirculating water systems; Outfalls 001, 002, and 003.
21.	Diethylhydroxylamine (DEHA) - oxygen scavenger and pH control used in service water system for control of microbiological induced corrosion; Outfalls 001, 002, and 003.
22.	Proprietary Methylene Bis based biocide - used in plant water systems; Outfalls 001, 002, and 003.
23.	Proprietary Quaternary ammonium compound - used as a biostat in plant water systems; Outfalls 002, 003 and 016.
24.	Poly Acrylic Acid – may be used as a dispersant in the secondary system: Outfall 001, 003, and 017 during emergencies.
25.	Ferric Sulfate – used for hydrogen sulfide consumption in the ground water sump: Outfall 003.
26.	Trisodium Phosphate – containment sumps for accident conditions: Outfall 001.
27.	Molluscicide – used intermittently (twice/year) at the water treatment plant and intake: Outfalls 002, 003, and 016.
28.	Triazine – a biocide used at water treatment, circulating and service water systems: Outfalls 002, 003, and 016.
29.	α-Ketoglutaric Acid (AKGA) – to neutralize hydrazine in secondary liquid waste water prior to discharge: Outfall 001.

ATTACHMENT E
NPDES Sampling and Analysis

The chemical analysis of the various waste streams reported in this application came from two principal sources: 1) a special sampling and analytical project conducted in February, May, and June 2013 and 2) discharge monitoring data as required by our existing NPDES permit.

Plant personnel conducted the reapplication sampling effort. Power generation at the plant averaged in excess of 99% of capacity during the sampling period for all process outfalls. Samples were collected from storm water outfalls during May when the plant was shut down for refueling to ensure samples were obtained during a spring rainfall event and during June for the pH analysis that was inadvertently omitted.

Note that some special sampling techniques were used as communicated to the staff in a letter dated December 4, 2012 (correspondence attached). As effluent from some outfalls is released intermittently and in batches, it was necessary to modify the default sampling requirements listed in application instructions for selected outfalls. Each sample location is discussed below to clarify these details and to allow the data to be interpreted correctly.

For the sampling project, analyses were performed by Callaway Energy Center, and two commercial laboratories: TestAmerica (St. Louis, MO) and PDC (Florissant, MO). All analyses were conducted in accordance with Standard Methods and/or EPA methodology. Specific test methods or additional details on other aspects of the sampling or analysis program are available upon request.

Outfall 001

As previously defined, routine discharges from this outfall are from one of five sources: the Boron Recycle System, the Liquid Radwaste System, the Laundry and Hot Shower system, the Secondary Liquid Waste system, and the Steam Generator Blowdown system (no discharge in the past twenty-five years). While processed separately, these waste streams, are normally commingled and retained in various tanks prior to discharge (excluding Steam Generator Blowdown). Thus, discrete samples of each subsystem were not obtained. Further, Steam Generator Blowdown was recycled without discharge during our sampling project schedule as it has been for the past twenty-five years.

In view of the above conditions and the necessity that plant operations not be excessively constrained by the testing program, the following approach was utilized. Each sampling event consisted of a single grab sample, taken from one of the well-mixed Discharged Monitor Tanks (under recirculating conditions) prior to its batch release. The majority of data shown under the "Maximum Daily Value" columns in Forms C and D is from a sample taken from the Liquid Radwaste Discharge Monitor Tank 'B' on June 11, 2013.

Data under the "Maximum 30 Day and Long Term Average" values are based on DMR data for the three-year period, January 2010 through December 2012. Mass discharges under these headings were calculated using the appropriate long-term average flow rates.

Outfall 002

Cooling Tower Blowdown was sampled over a 24-hour period on March 12 and 13, 2013. The discharge was maintained at a constant flow rate. Flow proportional composite and multiple grab samples were taken as appropriate. Other than the exception listed below, all of the data shown under the "Maximum Daily Value" columns in Forms C and D is from this sampling event. The flow monitored during this sampling event is also shown here and was used to calculate the mass discharges under this heading.

Data under the "Maximum 30 Day and Long Term Average" values are based on DMR data for the three-year period, January 2010 through December 2012. Mass discharges under these headings were calculated using the appropriate long-term average flow rates.

Outfall 003

Water treatment plant wastes are routed to Sedimentation Lagoon #4 for solids removal before the supernatant is recycled back to the head of the water treatment plant or is discharged. A small waste volume from makeup demineralizer plant regenerations, the previous NPDES Outfall 004, is routed to the Water Treatment Plant sludge pump station and is also treated by the sedimentation lagoons. A 24-hour flow composite and multiple grab samples were taken from the effluent of sedimentation pond #4 during a period on March 12 and March 13, 2013 while it was being recycled back to the head of the water treatment plant. Although there was no discharge from this outfall at the time, the water quality at the sample point for Outfall 003 would be the same as the quality of the wastewater if the Outfall had been discharging. All of the data shown under the "Maximum Daily Value" columns in Forms C and D is from this sampling event. Note that mass discharge values were calculated based on the estimated average discharge flow rate, even though the effluent was being recycled at the time.

No data were reported under the "Maximum 30 Day" and "Long Term Average" columns for this outfall since it is normally recycled and thus there is no recent historical monitoring data from DMRs. Ameren would like to maintain this Outfall permitted to preserve authorization to discharge from the water treatment plant, should the need arise.

Outfall 007

As described in Attachment A, effluent from the (sanitary waste) stabilization lagoons is routed through two artificially (constructed) wetlands. For this reapplication project, a single grab sample was collected on March 13, 2013 from the effluent weir at the point of discharge from the third treatment lagoon as required by our NPDES Permit, although this effluent stream was being recycled at the time of sample collection. Further polishing is completed by pumping this effluent to the first wetland. Flow continues by gravity through the second wetland which is routed to the supernatant pump station for recycle to the head of the water treatment plant. As the detention time within the lagoons and the first wetland, both exceed 24 hours, a single grab sample was collected. Data from this sampling event is shown under the "Maximum Daily Value" column in Form C.

An additional sample was collected on March 20, 2013 to obtain a pH and the waste stream temperature and flow. This analysis was inadvertently missed during the first sampling effort.

A third sample was collected on June 12, 2013 for a second fecal coliform analysis as the first sample taken exceeded the holding time allowed.

Although there was no discharge from this outfall at the time the samples were taken, the water quality at the sample point for Outfall 007 would be the same as the quality of the wastewater if the Outfall had been discharging. Other than the exception mentioned below, all of the data shown under the "Maximum Daily Value" columns in Forms C and D is from these sampling events. Note that mass discharge values were calculated based on the estimated average discharge flow rate, even though the effluent was being recycled at the time.

No data were reported under the "Maximum 30 Day" and "Long Term Average" columns for Outfall 007 since it is normally recycled and thus there is no recent historical monitoring data from DMRs. Ameren would like to maintain this outfall permitted.

Outfall 009

The intake electric boilers are currently in a dry lay-up condition as they have been for many years, and so it was not possible to obtain a sample from them. The last discharge from this system occurred in early 1985, so recent past discharge data are not available. We want to keep this outfall permitted in order to preserve the authorization to discharge from the electric boilers, should extreme weather or other conditions warrant their use.

Outfalls 010-015

As described previously, storm water runoff from all plant areas is diverted to settling ponds, prior to discharge to waters of the state via the outfalls specified in the existing permit. These outfalls are described in Attachment A and are shown on the attached site maps. All five outfalls were sampled for the permit reapplication, as described below.

The DNR approved of our request for a simplified sampling protocol, during this round of permitting (see attached letter dated December 14, 2012). Per our agreement with DNR staff, we analyzed SWR effluent for the following parameters:

- | | |
|-----------------------------|-------------------------|
| • pH | Fecal Coliform |
| • Biochemical oxygen demand | Total Kjeldahl Nitrogen |
| • Chemical oxygen demand | Nitrate-Nitrite as N |
| • Total suspended solids | Nitrogen, total organic |
| • Total organic carbon | Phosphorous |
| • Oil and Grease | Sulfate |
| • Ammonia – N | Aluminum |
| • Temperature | Iron |
| • Flow rate | Magnesium |

Grab samples were taken of the storm water runoff ponds on the following dates:

Date	Outfalls Sampled	Rainfall Amount (inches)	Time Since Prior Rainfall Event (hours)
5/20/13	010, 011, 012, 014, 015	0.98	>216
7/10/13	010, 011, 012, 014, 015	0.90	>216

The May sampling date was selected based on a rainfall event that resulted in pond discharges. The flow rates for all outfalls are based on calculated runoff (using appropriate runoff coefficients) from the actual rainfall measurements. The second set of samples was obtained to obtain the effluent pH which was inadvertently omitted during the first sampling event. Samples were collected to ensure pH was obtained although storm water Outfall 014 was not discharging during this rainfall event.

All of the data shown under the "Maximum Daily Value" columns in Form C are from these sampling events for each outfall. The flow, calculated for the rainfall event triggering each of these discharges, is also shown here and used to calculate the mass discharges under this heading.

No data was provided for the maximum 30 day and long term average values as routine monitoring is not required by the current Permit.

Outfall 016

The cooling tower bypass was sampled over a 24-hour period on March 12 and 13, 2013. The discharge was inadvertently isolated during this sampling campaign however, samples were collected from the normal sample location and are representative of Outfall 016 should it have been discharging. Flow proportional composite and multiple grab samples were taken as appropriate. Other than the exceptions listed below, all of the data shown under the "Maximum Daily Value" columns in Forms C and D is from this sampling event. As flow was isolated during this sampling event, average flows obtained from the plant computer were used to calculate the mass discharges under this heading.

Data under the "Maximum 30 Day and Long Term Average" values are based on DMR data for the three-year period, January 2010 through December 2012. Mass discharges under these headings were calculated using the appropriate long-term average flow rates.

Outfall 017

This is by definition a no discharge outfall; therefore it was not sampled.

Missouri River

A modified composite sample (consisting of 4 aliquots, each collected approximately 6 hours apart) was taken of Missouri River water being pumped to the head of the water treatment plant for a period on March 12 and 13, 2013. It is believed that this modified composite sample is representative of the river over a normal 24-hour period. Data available on the Missouri River

indicate substantial variability over longer periods. This data is provided under the "Intake" column in Forms C and D, for Outfall 003. All of the data shown is from this sampling event with the exception of a grab sample collected on June 12, 2013 for fecal coliform due to the first sample not meeting the hold time requirement.

General Notes

Important note on mass discharge calculation: *As described previously, mass discharges listed under the Maximum Daily Value heading, represent values calculated from the analytical data and the measured flows during the special re-application, sampling event. Consequently, the values shown do not necessarily represent an actual maximum mass discharge value.*

TestAmerica Laboratories, Inc. analyzed the following parameters for Outfalls 001, 002, 003, 007, 016 and the river intake:

TOC	Sulfate (as SO ₄)
COD	Phosphorus
Ammonia (an N)	Cyanide
Bromide	Phenols
Nitrate – Nitrite (as N)	Fluoride
Total Organic Nitrogen	O&G
Alpha/Beta	
GC/MS Volatiles	
GC/MS Semi-Volatiles	
Total Suspended Solids	
Total Metals	

PDC completed all Fecal Coliform, Surfactants, and the BOD analyses. They also completed analysis of the following parameters for storm water Outfalls 010, 011, 012, 014, and 015:

BOD 5-Day	O&G
TOC	Total Phosphorus
Total Suspended Solids	Total Sulfate
Ammonia (as N)	Aluminum
Nitrogen, T. Organic	Iron
Total Kjeldahl Nitrogen	Magnesium
COD	Nitrate – Nitrite (as N)
Fecal Coliform	pH

The **Callaway Energy Center** chemistry staff analyzed each outfall for the remaining parameters:

Temperature	Total Residual Chlorine
Flow	Total Hardness
pH	



December 4, 2012

Mr. Chris Wieberg
Department of Natural Resources
Water Pollution Control Program
Permit Section
P.O. Box 176
Jefferson City, MO 65102-0176

Dear Mr. Wieberg:

**RE: Callaway Energy Center NPDES Permit #MO-0098001
Reapplication Monitoring Program**

The application for renewal of the Callaway Energy Center NPDES operating permit is due next summer (August 2013). Therefore, we are beginning to compile the necessary information to initiate this project. One of the first tasks is to arrange for sample collection and analysis. At this time we are requesting your review and approval for storm water sampling as described below as well as no sample collection for Outfall 009 and Outfall 017. Please note that we utilized a similar process during the past two rounds of permitting for Callaway.

Storm Water Runoff (SWR) Outfalls 010 through 015

In the initial round of sampling, in order to characterize storm water runoff from industrial facilities subject to EPA's "Phase I" storm water regulations, we attempted to comply with the rigorous criteria which defined both qualifying storm events and sample procedures (both first flush and flow proportional composite samples). Such sampling efforts are very complex and costly, yet despite our efforts they proved infeasible for a few of the storm water settling pond outfalls at Callaway. Therefore we believe an alternate sampling program (essentially the same as that approved by DNR in 2000 and again in 2007) is appropriate for this round of permitting in light of the historical data and site specific circumstances. We are confident that the approach described below will ensure representative samples of effluent from the storm water settling ponds.

For this round of permitting as during the 2008 campaign, we plan to collect grab samples of effluent from each storm water settling pond (current Outfalls 010, 011, 012, 014, & 015), as soon as practical following initiation of discharge after a rainfall event. We will analyze samples collected after events of at least 0.1 inch of rain. We plan to monitor rainfall continuously throughout the sampling project, in order to characterize the event (as well as the effluent); however we see no benefit in applying other event selection criteria. We believe the configuration of the existing settling ponds and the condition of their spillways/discharge structures support the use of alternate techniques. The discharge of these ponds following a rainfall event is substantially moderated by both the highly absorptive off site drainage areas and the detention/retention capacity of the ponds. Clearly, initial effluent quality from a settling pond does not exhibit the elevated contaminant concentrations typical in first flush samples of unimpeded runoff from direct storm water conveyances. In addition, despite considerable effort, we see little benefit in collecting composite samples.

As explained in the letter submitted for sampling for the 2008 reapplication campaign, we do not see the need to sample/analyze for nitrogen, phosphorous, PCBs or other parameters as explained in the letter dated October 5, 2007 for the last permit reapplication (letter attached). All electrical oils used at Callaway are and have always been PCB-free. In addition, nitrogen and phosphorus may be present in runoff (due to nearby agricultural lands managed by the Missouri Department of Conservation, which also drain to several of these

ponds). It is highly unlikely that these contaminants would be present from plant operations. We believe the quality of storm water runoff from these outfalls can be sufficiently characterized by analyzing the "standard" list of parameters in Part A of Missouri Form C, and therefore as during the last reapplication, we plan to limit our analyses to these parameters along with oil and grease.

Outfall 009 (Intake Heater Blowdown) and 017 (Ultimate Heat Sink)

In addition, with your concurrence, we do not plan to sample Outfalls 009 and 017 for this reapplication, as they had no discharges during the past permit term.

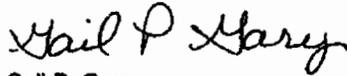
Outfall 009, permitted for blowdown from electric heaters (installed in the intake, to heat water to de-ice the intake screens and/or bar racks), has never been used although the equipment is in place in case of critical need. We have previously characterized the probable quality of this effluent. A special sampling and analysis program would be conducted prior to any discharge if these heaters were to be placed in service. Nonetheless, we value the existing outfall designation, as it continues to provide a mechanism to expeditiously authorize potential future discharges, without modification of the permit, should the need arise.

Outfall 017 is classified as a no discharge outfall. We could characterize the quality of water contained in the ultimate heat sink, but since discharges are not anticipated nor authorized, we see no benefit to collect this information.

Conclusions

Due to a scheduled spring refueling outage, Callaway plans to begin sampling for the permit reapplication early during 2013 as soon as spring rainfall events begin. Therefore, we would appreciate your timely response to this memo, to allow time to modify or finalize our sampling program. If you have any questions regarding this proposal, please contact me at 314-554-2824.

Sincerely,



Gail P. Gary
Consulting Chemist

Attachment

Ameren Services

*Environmental, Safety & Health
314.554.3652 (Phone)
314.554.4182 (Facsimile)
mbollinger@ameren.com*

One Ameren Plaza
1901 Chouteau Avenue
PO Box 66149
St. Louis, MO 63166-6149
314.621.3222

October 5, 2007

Mr. Refaat Mefrakis
Department of Natural Resources
Water Pollution Control Program
Permit Section
P.O. Box 176
Jefferson City, MO 65102-0176

Bcc: R. S. Boutelle
M. F. Bollinger
G. P. Gary
J. C. Pozzo
File: WQ3.1.1



Dear Mr. Mefrakis:

**RE: Callaway Plant NPDES Permit #MO-0098001
Reapplication Monitoring Program**

As the application for renewal of our Callaway Plant NPDES operating permit is due next spring (April 4), we have just initiated the project to compile the necessary information. One of the first tasks is to arrange for the sample collection and analysis. On Thursday, September 27, I spoke with Tim Stallman regarding details of the Storm Water Runoff (SWR) monitoring, in order to resolve certain questions and ensure an appropriate approach for this round permitting. He suggested that we present our specific requests to you in writing, to facilitate their review. Please note that we utilized a similar process during the round of permitting per the attached correspondence.

Storm Water Runoff (SWR) Outfalls 010 through 015

In the initial round of sampling, in order to characterize storm water runoff from industrial facilities subject to EPA's "Phase I" storm water regulations, we attempted to comply with the rigorous criteria which defined both qualifying storm events and sample procedures (both first flush and flow-proportional composite samples). Such sampling efforts are very complex and costly, yet despite our efforts they proved infeasible for a few of the storm water settling pond outfalls at Callaway Plant. We believe an alternative sampling program essentially the same as that approved by DNR in 2000 is appropriate again for this round of permitting in light of the historical data and site specific circumstances. We are confident that the approach described below will ensure representative samples of effluent from the storm water settling ponds.

For this round of permitting, we plan to collect grab samples of effluent from the storm water settling ponds (Outfalls 010-015), as soon as practical following initiation of discharge after a rainfall event. We will analyze samples collected after events of at least 0.1 inch of rain. We plan to monitor rainfall continuously throughout the sampling project, in order to characterize the event (as well as the effluent); however we see no benefit to apply other event selection criteria. We believe the configuration of the existing settling ponds and the condition of their spillways/discharge structures support the use of alternative techniques. The discharge of these ponds following a rainfall event is substantially moderated by both the highly absorptive off site drainage areas and the detention/retention capacity of the ponds. Clearly, initial effluent quality from a settling pond does not exhibit the elevated contaminant concentrations typical in first flush samples of unimpeded runoff from direct storm water conveyances. As well, we see little benefit despite considerable additional effort and cost, to justify composite sampling.

In our 1995 reapplication, we analyzed the SWR samples for 26 parameters, based on generic EPA criteria. These included parameters listed in EPA Form 2F, plus all other parameters listed in our permit (for which analysis was required for any outfall), and PCBs (due to the EPA's Steam Electric categorical prohibition against discharge of PCBs). Data on most of these parameters provides little relevant information regarding plant operations. For example, nitrogen and phosphorus may be present in runoff (due to the agricultural lands, managed by the Missouri Department of Conservation, which also drain to some of these ponds) but it is highly unlikely that these contaminants would be present from Plant operations. Likewise, we previously monitored for PCBs (and found none) due to the generic limit, despite the fact that electrical oils used at Callaway are and have always been PCB-free. We believe the quality of SWR from these outfalls can be sufficiently characterized by analyzing the "standard" list of parameters in Part A of Missouri Form C, and thus plan to limit our analysis to these in this reapplication.

Outfalls 009 (Intake Heater Blowdown) and 017(ultimate Heat Sink)

In addition, with your concurrence, we do not plan to sample these two outfalls for this reapplication, as they have had no discharges during this permit term.

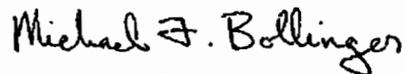
Outfall 009, which would be used to discharge blowdown from electric heaters (installed in the intake, to heat water to de-ice the intake screens and/or bar racks), has never been used, although the equipment is in place in case of critical need. We have previously characterized the probable quality of this effluent. And we would conduct a special sampling and analysis program before any discharge would be made, if these heaters were to be placed in service. Nonetheless, we value the existing outfall designation, as it provides a mechanism to expeditiously authorize potential future discharges, without modification of the permit.

Outfall 017 is classified as a no discharge outfall. We could attempt to characterize the quality of water within the Ultimate Heat Sink, but since discharges are neither anticipated nor authorized, we see no benefit to collect such information.

Conclusions

In order to ensure that SWR sampling data can be compiled in time for the spring reapplication deadlines, we want to attempt to sample this fall. Thus, we would appreciate your timely response to this memo, which will allow us to modify and/or finalize our sampling program without delay. If you have any questions regarding this proposal, please contact me at 314/550-2875 or Gail Gary at 314/554-2824

Sincerely,



Michael F. Bollinger
Consulting Environmental Scientist

WQ3.1.1

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pantley, Director

www.dnr.mo.gov

DEC 14 2012

Mr. Gail P. Gary
Ameren Services
P.O. Box 66149, MC 602
St. Louis, MO 63166-6149

RE: Callaway Energy Center NPDES Permit # MO-0098001
Reapplication Monitoring Program

Dear Mr. Gary:

Upon review of the letter sent on December 4, 2012, the Department of Natural Resources agrees to the proposed sample collection and analysis. Stormwater Outfalls #010, #011, #012, # 014, and #015 samples may be collected using "grab" sampling after events of at least 0.1 inch of rain.

As a primary industry (40 C.F.R. Appendix A to Part 122), the facility is also required to submit **Form C** (APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL, MINING, SILVICULTURE OPERATIONS, PROCESS, & STORM WATER) and **Form D** (APPLICATION FOR DISCHARGE PERMIT PRIMARY INDUSTRIES).

To complete Forms C and D the following analysis are required where applicable of each permitted outfall. If the two forms require outfall and pollutant duplication, the same analysis can be reported on each form.

Form C, Part A:

All applicants must provide results of at least one analysis for BOD, COD, TOC, TSS, NH₃, flow, temperature, and pH.

Form C, Part B:

Requires applicants to mark "X" in either the "Believe Present" column or the "Believe Absent" based on your best estimate and must provide results of at least one analysis if "**Believed Present**" and regulated by applicable effluent guidelines.

ALL Primary Industries are required to test: Metals, Cyanide, and Total Phenols.



Mr. Gail Gary
Callaway Energy Center
Page 2

In addition to the above parameters, Steam Electric Power Plants are required to complete Form D, which includes analysis for the following per 40 CFR Part 122 Appendix D, Table 1:

- GC/MS FRACTION - Volatile
- GC/MS FRACTION - Acid
- GC/MS FRACTION - Base/Neutral Compounds

The facility stated that the electrical oils used at Callaway Energy Center are and have always been PCB-free, so the facility may not be required to test PCBs in stormwater discharge. Regardless of the statement, 40 CFR §423.16 (a) will be added as steam electric power plants' permit Special Condition— "There shall be no discharge of polychlorinated biphenol compounds such as those used for transformer fluid".

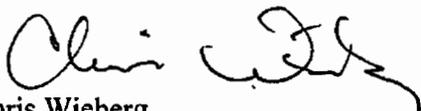
Additionally, the facility does not see the need to sample/analyze for nitrogen and phosphorus due to nearby agricultural lands also draining to the stormwater settling ponds. The Department will take this claim into consideration; however, applicants must still provide results of at least one analysis since they believed the pollutants may be present in runoff. Addressing run-on from adjacent lands may be a best management practice that should be considered by the facility to address this issue in the future.

Outfall #009 (intake heater blowdown) has never been used and Outfall #009 does not discharge according to the facility; however, if a discharge occurs, between the date of this letter and the submission of the permit renewal application, an analysis for both outfalls must be submitted with the application.

If you have any questions about this letter, please feel free to contact Joy Johnson of my staff by phone at (573) 751-6982. Thank you.

Sincerely,

WATER PROTECTION PROGRAM



Chris Wieberg
Chief, Operating Permits Section

CW:jjj

ATTACHMENT F
Section 311 and CERCLA Exemptions

The chemicals listed below are used in water treatment processes and may be discharged in amounts exceeding their "reportable quantities" under 40 CFR 117 and 302 (1989).

Chemical	Anticipated Usage (Avg lbs/day)	Reportable Quantity (lbs/day)	Typical Quantity On-Site (lbs)	Outfalls
Sodium Hydroxide	620	1,000	300,000	001, 003*, and 009
Sodium Hypochlorite	2,100	100	100,000	001, 002, 003, and 016
Sulfuric Acid	26,000	1,000	450,000	001, 002, 003, and 009
Hydrazine	80	1	26,000	001 and 003*

* Recycling of Outfall 003, Water Treatment Plant Supernatant, (as described in Attachment A) may also result in trace amounts of these chemicals in Outfalls 002 and 016.

Ameren Missouri requests exclusion under the NPDES exemptions from Section 311 and Superfund reporting for these four compounds and all others that are, as reported in this application, present in continuous or anticipated intermittent discharges (See Attachment D). These and other discharges for which exclusion are requested are exempt from Section 311 liability by 40 CFR 117.12(a)(1) if they are in compliance with the permit and 117.12(a)(2) or (3) if they are not. Discharges that are excluded from 311 reporting are also excluded from Superfund reporting. Any discharges other than those resulting from on-site spills would either result from circumstances identified in this application and be subject to neutralization treatment (see 117.12(c)) or would be continuous or anticipated intermittent discharge originating within the operating or treatment systems at the plant (see 117.12(d)). These discharges are, therefore, excluded from Section 311 and Superfund reporting requirements.

ATTACHMENT G
General Comments on Standards Setting

In anticipation of conditions that may be set in this permit renewal, Ameren Missouri requests the consideration of the following comments.

1. **Mass Limits** - The Steam Electric Effluent Guidelines (at 40 CFR Part 423.13(g)) specifically allow the permitting authority to express the quantity of pollutants allowed to be discharged as a concentration limitation instead of a mass-based limitation. Fixed numerical mass discharge limitations necessarily impose implicit flow restrictions at the allowable concentration levels. The flow restrictions are too inflexible to cope with the flow variability conditions and the electrical reliability imperatives placed on steam electric power plants. Unlike some industries in which waste stream flow variability is the result of a single factor, like production, Callaway Energy Center has no such single parameter indicative of flow. Further, as a utility whose production is dictated by public consumption, the plant must be capable of attaining and maintaining full power production for as long as necessary. Since we feel that the concentration-based limits are sufficient and more appropriate for regulation of power plant discharges, we request that you do not impose any mass limitations when reissuing this permit.
2. **Net Credits** - In a situation whereby a limitation might be set on the discharge of a priority pollutant, Ameren Missouri feels it should reflect an adjustment credit for pollutants in the intake water, because discharges are returned to the Missouri River. As complete removal of compounds in this category would not be achieved by the water treatment systems at the Callaway Energy Center, we hereby request an appropriate net limitation be applied as necessary. We anticipate not adverse water quality effect from net limitations.
3. **WET Test Scheduling** – In accordance with permit conditions (Section D, Other Requirements, item 6), Callaway Energy Center conducts an annual acute Whole Effluent Toxicity (WET) test on composite samples taken from Outfalls 002 and 016. When attempting to collect these special composite samples, it simplifies the sampling procedure considerably by maintaining the Cooling Tower Blowdown (Outfall 002) and Cooling Tower Bypass (Outfall 016) at a constant flow rate over the 24-hour sampling period. This eliminates the need to adjust sample aliquots proportionally with flow. The annual WET test is completed in either the spring or fall immediately following a molluscicide treatment (and algaecide treatment if performed), and concurrently with the weekly circulating and service water system chemical addition. In addition, Callaway Energy Center has conducted an acute WET test every 5 years for Outfall 001 and completed a chronic WET test for Outfall 002 every 5 years in accordance with our current permit. All WET tests conducted during the past five years for Callaway have all passed with no issues identified.

Because Liquid Radwaste (Outfall 001) and Cooling Tower Bypass (Outfall 016) flows are intermittent and discharge volumes released from Outfall 001 are a small fraction of the overall plant discharge flow, we request consideration be given to eliminating one or both of these chronic WET test requirements. Discharges from Outfall 001 occur on average about once per week during normal operation with a flow rate of 250 gpm during the discharge. Cooling

tower blowdown dilution flow is maintained at greater than 5,000 gpm during this discharge. In addition, because Outfall 001 may contain a very small concentration of radioactive material, this WET test sample must be sent to an environmental laboratory which has obtained a license to receive radioactive materials. At this time, a laboratory has not been located that can conduct the required WET test for Outfall 001 and as required, has also obtained a license to receive radioactive material. ABC Laboratory conducted this test during 2009 (the last five year WET test for Outfall 001) and has informed Ameren they will no longer perform this analysis.

Outfall 016 (Cooling Tower Bypass) is also an intermittent discharge. This stream consists of Missouri River water treated to remove river solids. If this water is not needed for cooling tower makeup, it is discharged back to the Missouri River. This bypass can occur daily or as infrequently as once per month with the maximum bypass flow of 5000 gpm. The maximum daily flow during the past year was near 3.2 MGD with an average daily flow of near 0.8 MGD based on plant computer data.

ATTACHMENT H
Section 316(b) Demonstration Status

The Callaway 316(b) demonstration consists of two parts, an impingement study and an entrainment study. Part one, the impingement study, was started during the spring of 1984 and was successfully completed in the fall of 1984. Part two, the entrainment study, was completed and submitted in June 1986. DNR correspondence dated April 15, 1987, approved the 316(b) study and agreed with the conclusions of the study that the impacts from the use of the intake structure at Callaway are minimal.

There have been no significant modifications or changes in the construction, design, location or capacity of the cooling water intake structure. Accordingly, Ameren Missouri hereby incorporates by reference the results and conclusions of these prior studies and requests renewal of the 316(b) approval at Callaway.

ATTACHMENT I
Macroinvertebrate Controls

Asiatic Clams

Asiatic clams, *Corbicula fluminea*, are a prolific nuisance macroinvertebrate with the potential to severely impact plant operations, if their population is not held in check. The Callaway Energy Center intake, water treatment plant (WTP) clarifiers and clearwell are considered particularly vulnerable systems. In 1996, the Plant instituted a monthly monitoring program to facilitate effective controls. Two methods are employed to control Asiatic clams: chlorination for control of juvenile clam (prior to shell development) and molluscicides to control adults. To increase the effectiveness of these treatments, water temperatures are monitored in order to determine when the temperature is suitable for the clams to spawn.

A molluscicide, Bulab 6086, is added to the WTP clarifier effluent from one to six times per year, at a target concentration of 13 mg/l (as product, in the clearwell). The treated water is allowed to soak for approximately 12 hours to provide maximum effectiveness. This procedure is usually performed during a plant intake outage, or during periods of low flow (<5000 gpm) through the WTP. During this treatment, the cooling tower makeup bypass valve (Outfall 016) is closed to prevent the release of this product directly to the plant discharge line. This bypass valve remains closed for 3 hours following the restoration of the WTP flow. The treated water in the clearwell is then routed to the cooling tower for use as makeup. Suspended solids in the tower will absorb the residual active molluscicide. Therefore, there is no detectable free active product released from Outfall 002.

The chlorination treatment is similar to that used with the molluscicide as described above, except that sodium hypochlorite is added upstream of the WTP clarifiers. Otherwise, the treatment follows the same basic procedure, i.e., the cooling tower makeup bypass valve is closed until the chlorine is reacted or dissipates and thus undetectable in discharges into the plant blowdown line.

Zebra Mussels

Callaway Energy Center has an inspection program to detect the settlement and growth of zebra mussels within systems vulnerable to macroinvertebrate fouling. Recent inspections have identified the presence of zebra mussels in the Missouri River at the vicinity of the Callaway intake.

We have identified two systems that are particularly vulnerable to fouling if zebra mussels become established in the vicinity of the plant. The first system is the intake structure, which contains vulnerable equipment including screen wells, pump bays, vertical traveling screens, pumps, and trash racks. The other system, which might need treatment, is the 5-mile pipeline from the intake structure to the plant.

The following treatments are being implemented.

Intake Structure - The isolated intake bays will be treated with a molluscicide as follows. An individual intake bay will be isolated by closing all gate openings to adjacent cells and the river. The discharge valve on the intake pump in the isolated bay will be closed to prevent backflow from operating pumps in adjacent bays. The molluscicide will be injected into the isolated bay to achieve the manufacturers recommended concentration. The product concentration will be maintained for the specified time limit for effective treatment. After the treatment, the treated water will be pumped to the plant for use. This method is similar to others approved by DNR for Ameren Missouri facilities on the Mississippi River. Treatments to control fouling in the intake bays will be conducted 1 to 4 times per year. Bulab 6086 is currently utilized at a target dosage of 13 mg/l as product for approximately 12 hours per treatment.

Intake Pipeline - The intake pipeline may also be treated with a molluscicide. In this application, we will use a lower concentration for a longer period of time. Bulab 6086 will be feed into the combined pump discharge header at the intake to achieve approximately 2 mg/l as product in the pipeline and the concentration will be maintained for a period of four weeks. One or two treatments are anticipated per year; one in the spring and one in the fall.

ATTACHMENT J
Activities, Materials and Management Practices with the
Potential to Impact Storm Water Quality

As described in Attachment E, reduced monitoring of storm water outfalls was authorized by DNR for this application (acknowledging the adequacy of prior characterization of these discharges). This data was entered into Missouri Forms C and D, eliminating the need to complete EPA Form 2F; nonetheless, we believe this Attachment and the referenced drawings provide all of the required data.

Routine/Permanent Significant Materials Storage

The following significant materials have been identified at the Callaway Energy Center, as being in contact with storm water currently or in the last three years. They are shown on drawing NPDES-001, NPDES Storm Water Information Outfalls 010-015 and described below. Note that compass direction references are relative to "Plant North" a standardized reference designation, which is depicted on the drawing. Where possible, each item description listed below includes a number in brackets "{}" which corresponds to the drawing legend listing.

1. Amine Storage Tank - A 6,000-gallon tank located northeast of the turbine building was installed to house ammonia hydroxide. A lined trough is located below the tank capable of holding 110% of the tank contents. This tank is currently empty and has not been used for more than 10 years. {827}
2. Caustic Storage Tank - A 10,000-gallon storage tank containing sodium hydroxide is located plant northeast of the turbine building. A lined trough is below the tank capable of holding 110% of the tank contents. Caustic is unloaded from tank trucks using air pressure. {829}
3. Demineralizer Caustic Storage Tank - A 16,000-gallon storage tank containing sodium hydroxide is located plant north of the demineralizer building. A concrete dike surrounds the tank capable of holding 110% of the tank contents. Caustic is unloaded from tank trucks using air pressure. {853}
4. Sulfuric Acid Storage Tank - A 10,000-gallon storage tank containing sulfuric acid is located plant northeast of the turbine building. A lined trough is below the tank capable of holding 110% of the tank contents. Acid is unloaded from tank trucks using air pressure. {828}
5. Circulating/Service Water Sulfuric Acid Tank – A 14,000-gallon storage tank containing sulfuric acid is located near the circulating and service water pump house and cooling tower basin. Containment consists of a concrete dike capable of holding 110% of the tank contents. Acid is unloaded from tank trucks using air pressure. {844A}

6. Demineralizer Sulfuric Acid Storage Tank - A 10,000-gallon storage tank containing sulfuric acid is located plant north of the demineralizer building. A concrete dike surrounds the tank capable of holding 110% of the tank contents. Acid is unloaded from tank trucks using air pressure. {854}
7. Gasoline Storage Tanks - One above ground gasoline storage tank located plant west of the Stores I building has a capacity of 2,000 gallons. A second above ground gasoline storage tank with a capacity of 500 gallons is located plant west of the Stores II building. A prefabricated metal containment exists around each of the tanks of sufficient size to contain approximately 110% of the tank capacity. Gasoline is unloaded from tank truck using onboard truck pumps. {865}
8. Security Diesel Storage Tank - A 3,000 gallon underground tank containing diesel fuel is located by the Main Access Facility. Diesel fuel oil is unloaded from tank trucks using onboard truck pumps. {814}
9. Alternate Power Emergency System (APES) Diesel Generators - Four APES diesel generators are located on Highway CC south of the existing COOP substation. The APES diesel generators were installed during 2010. Mounted under each diesel generator skid is a 3500 gallon self-contained diesel fuel oil storage tank with a secondary containment.
10. Emergency Diesel Fuel Tanks - There are two 100,000 gallon underground diesel fuel oil storage tanks located plant south of the Emergency Diesel building. Diesel fuel oil is unloaded from tank trucks using onboard truck pumps. Diesel fuel is used to power the emergency diesel generators during testing and as needed to supply plant power. {838}
11. Vehicle Diesel Fuel Storage Tanks - Two above ground vehicle diesel storage tanks are located plant west of the Stores I building. There is a 300 gallon tank used to store #1 diesel and a 700 gallon tank used to store #2 diesel fuel oil. Two additional above ground vehicle diesel storage tanks are located plant west of the Stores II building for storage of #2 diesel fuel oil. Each of these two tanks has a capacity of 500 gallons. A prefabricated metal containment exists around each tank of sufficient size to contain approximately 110% of tank capacity. Diesel fuel oil is unloaded from tank trucks using onboard truck pumps. A gas station type dispenser is used to fill diesel-powered vehicles from these tanks. {886}
12. Auxiliary Fuel Oil Storage Tank - The auxiliary fuel oil storage tank is a 300,000-gallon carbon steel tank located plant west of the demineralizer building. An earthen berm capable of containing 110% of the tank contents surrounds the tank. An underground transfer line from the auxiliary fuel oil transfer system fills the tank. This tank is used to supply diesel fuel oil to the auxiliary boiler and the fire protection diesel pumps. {869}

13. Circulating Water Chemical Control System Salt Storage - Two salt storage tanks (full of rock salt) are located plant north of the circulating water chemical control system building. The storage tanks and equipment have been retired in place. {818}
14. Transformer Oil - Thirteen large power transformers are located on site. They are the main transformers (4 at 12,000 gallons), the Unit Auxiliary transformer (8,000 gallons), the Start Up transformer (9,700 gallons), the Station Service transformers (2 at 2,770 gallons), the Alternate Energy Power Source transformer (2,170 gallons), the Engineered Safety Features transformers (2 at 2,270) and the Safeguard transformers (9,700 and 11,500 gallons). In addition, most buildings on site have associated service transformers located outside (~20-30 transformers) which each contain approximately 400 gallons of oil. Most outside oil filled electrical transformers are situated on top of a concrete lined pit, which is filled with gravel. The exception to this is the Training Annex transformer and the eight 300 series site power loop transformers which do not have any containment. Any spills from these transformers would have to be contained in the drainage ditches adjacent to the transformers.
15. Demineralized Water Tank - A 150,000-gallon stainless steel demineralized water tank is located plant southeast of the turbine building. No containment exists around this tank. The tank is filled via makeup demineralizers through underground piping. {830}
16. Condensate Water Tank - A 466,000 gallon stainless steel condensate water tank is located plant southeast of the turbine building. No containment exists around this tank. The tank is filled from the demineralized water storage tank through underground piping. It is used to supply water to the steam generators when the plant is shutdown and during transients. During transients the tank can also be supplied by firewater. {831}
17. Refueling Water Tank - A 419,000-gallon stainless steel refueling water tank is located plant southwest of the containment building. No containment exists around this tank. The tank is filled from the reactor makeup system through underground piping. It is used to supply water to the refueling pool during outages and to the reactor system during transients. The tank contains radioactive demineralized water with 2,350 to 2,500 mg/l of boron. {839}
18. Reactor Makeup Water Tank - A 153,000-gallon stainless steel reactor makeup water tank is located plant southwest of the containment building. No containment exists around this tank. The tank is filled from the demineralized water tank through underground piping. It is used to supply demineralized water to the reactor system and associated support systems. {840}
19. Demineralized Water Clear Well - The demineralized water clear well consists of a 50,000-gallon carbon steel tank located plant northwest of the demineralizer building. No containment exists around this tank. Deep well water is pumped underground to the demineralized water clear well, which is then transferred underground to supply water to the makeup demineralizers. {855}

20. **Fire Water Storage Tanks** - Two 300,000-gallon carbon steel firewater tanks are located plant southeast of the demineralizer building. No containment exists around these tanks. These tanks are filled from the demineralizer clear well through underground piping. They are used to supply firewater to the plant for testing and fire response. {859}
21. **Neutralization Tank** - The neutralization tank is a 150,000-gallon open carbon steel tank with an inner protective coating. No containment exists around this tank. It receives regeneration wastewater from the makeup demineralizer system through underground transfer lines. The water is pH adjusted with sulfuric acid and or caustic and then sent to the WTP sedimentation lagoons. {862}
22. **Discharge Monitor Tanks** - Two above ground 100,000-gallon stainless steel discharge monitor tanks are located plant south of the radwaste building. The tanks are used to store plant radioactive wastewater prior to discharge. A single concrete diked area capable of holding 110% of the contents of one tank provides spill containment. {879}
23. **Water Treatment Plant Sodium Hypochlorite Storage Tank** - A 6,000-gallon plastic sodium hypochlorite tank is located plant south of the water treatment plant. No containment exists around this tank. It is in service from approximately April to October each year. The contents are used to chlorinate the water treatment plant clarifiers.
24. **Gaseous Chemical Storage**
 - a) **Carbon Dioxide (CO₂)**: The CO₂ storage tank is located in the plant gas yard, which is plant south of the radwaste building. The primary use of CO₂ is to degas the main generator of hydrogen during outages. The tank has a capacity of 6 tons of liquid CO₂, a maximum pressure of 350 psig at 125°F. It is constructed per section 8 of the ASME pressure vessel code. {832}
 - b) **Hydrogen (H₂)**: There are 12 tubes for storage of H₂ with a total capacity of 83,232 cubic feet at 2,300 psig located in the plant gas yard. Hydrogen is primarily used as a cover gas for the main turbine generator and to maintain oxygen control in the reactor coolant system. The tubes are constructed per ASME UPV code 8, Code Case 1205 of a material that meets ASME SA372 Class 4. {833}
 - c) **Oxygen (O₂)**: An oxygen storage tube trailer provides the main source of oxygen and 8 Oxygen cylinders for backup. The cylinders each contain 330 standard cubic feet of O₂ at 2,640 psig. They are constructed to meet DOT specification 3AA2400. The primary use of O₂ at the plant is in radwaste systems, in the evolution of hydrogen recombination. {841}
 - d) **Nitrogen (N₂)**: Callaway has both high and low pressure N₂ with storage tanks located in the plant gas yard. There are two low pressure N₂ storage tanks with a liquid capacity of 1569 gallons and 3000 gallons each. They are constructed with an inner vessel of 5083 aluminum and an outer carbon steel vessel. The primary use of low-pressure nitrogen for the plant is to purge and blanket systems to exclude

oxygen. High-pressure nitrogen is stored in 3 tubes with a total capacity of 24,280 cubic feet at 2,300 psig. They are designed and constructed to meet ASME code for pressure vessels. The primary use of high-pressure nitrogen is to provide a backup gas supply to rapidly close plant valves during transients. {892}

25. Reclaimed Oil Storage Tank - The reclaim oil tank has a capacity of 10,000 gallons. It is an aboveground tank located within an earthen dike of sufficient size to contain 110% of the tank contents. The tank is filled through underground lines from the oily wastewater separator. Used oil is removed for recycle from the tank to tanker trucks by vacuum created within the trucks. {861}
26. Oily Waste Treatment Area - This area is located southeast of the demineralizer building. The area consists of a building containing the oily wastewater separator and associated piping, the reclaimed oil storage tank, the equalization basin {863}, and a 29,000-gallon carbon steel underground process surge tank that supplies plant oily wastewater to the separator. All oily waste system water and oil transfers in this area are underground. Separated water is transferred to WTP sedimentation lagoon #4. {870}
27. Auxiliary Oil Transfer (Loading) Area - The auxiliary oil transfer loading area is located plant south of the auxiliary fuel oil storage tank. The area consists of a building containing pumps and piping to transfer diesel fuel oil to the auxiliary fuel oil storage tank. Diesel fuel oil is unloaded from tank trucks by pumps on the trucks or using the installed plant equipment pumps. Transfer lines to the auxiliary fuel oil storage tanks are underground. {864}
28. Loading Area at Stores II - The loading area at the Stores II building consists of a standard shipping/receiving dock. All chemicals and other products are unloaded from trucks in their own shipping containers. There are not facilities for unloading of any bulk chemicals, fuel oil, or gasoline through pipelines to plant bulk storage tanks. {801}
29. Misc. Materials Storage Areas - Three areas around the Stores II building exist for miscellaneous laydown areas for item such as metal, gravel piles, fill material and old concrete. One is a concrete pad and the other two are on grass/gravel covered areas. Another materials storage area exists near the outage maintenance facility. Materials stored are metal components such as pumps, and valves, structural materials made of items such as metal, wood or concrete, pipe made of materials such as carbons steel, PVC, and galvanized metal, empty portable tanks, and empty metal dumpsters. {801}
30. Excavation Surplus Storage - Two storage areas are located plant south of the water treatment plant sludge lagoons containing excess dirt, concrete, and asphalt from plant activities.

Temporary Significant Materials Storage - During the Last 3 Years

The following significant materials were present on site temporarily within the last three years.

Refuel 18 and Refuel 19

The majority of additional materials stored on-site were for large equipment replacements including the four main transformers. Additional trailers to house additional staff and equipment such as scaffolding, cranes and other materials to support the refueling outages were also on-site. No other "significant materials" were stored on site during Refuel 18 and Refuel 19.

A temporary Ecolochem trailer was also brought on-site during the fall of 2012 to provide make up water when the plant makeup water system was taken out of service for repairs to the neutralization tank.

In addition, during 2010 five temporary emergency diesel generators were temporarily located near the ultimate heat sink for approximately 9 months.

Hazardous Wastes

Callaway Energy Center is normally a small quantity generator of hazardous waste generating between 200 and 2200 lb. of hazardous waste per month. At times the quantity of hazardous waste exceeds this quantity due to infrequent activities such as equipment cleanings, etc. The waste is stored in a prefabricated Hazardous Waste Storage Building (HWSB) with containment sumps, designed specifically for storage of hazardous waste. Waste is stored in the HWSB for up to 180 days prior to disposal via an off-site vendor. Typical wastes generated are Chromium, Lead, Mercury, Silver, and solvents. The plant also currently maintains an outside satellite accumulation area where waste paint and solvents are accumulated. These wastes are accumulated from work performed in the plant in two separate 55-gallon drums held in a prefabricated closed spill container capable of holding 110 percent of the volume in both drums.

Management Practices

A spill prevention, control and countermeasure (SPCC) plan and implementing procedure is in place at the Callaway Energy Center. The plan provides plant personnel with the necessary information regarding the types, locations and quantities of non-radioactive oil present at Callaway Energy Center and offers guidance on the containment and reporting of oil spills.

A chemical emergency response plan (CERP) and implementing procedure is also in place at the plant. This plan provides guidance and information for responding to hazardous chemical and/or oil spills.

Both plans describe various materials management practices employed to minimize contact by these materials with storm water runoff.

Outdoor Vehicle Maintenance and Cleaning Areas

No outdoor vehicle maintenance and cleaning areas exist on the plant site.

Fertilizers, Pesticides, Herbicides, and Soil Conditioners

Herbicides are spray applied to various areas in and around the plant site as shown in drawing NPDES-001, Storm Water Information Outfalls 010-015. Herbicides are also applied to small areas near the intake building, the shooting range, the met tower, and the alternate emergency diesel generator yard.

The herbicides used for weed control are Karmex, Oust, Signal, Roundup, and Weedar (2,4-D). Pesticides are not used at Callaway Energy Center. In addition, no restricted use products are utilized at the facility.

Note that fertilizers, herbicides and soil conditioners which are used by the Department of Conservation on lands leased to them (yet within the plant storm water drainage areas) are not included in this summary.

Authorization for Non-stormwater Components

In previous applications, we described numerous releases to storm water conveyances from sources not associated with precipitation. We also discussed our justification for these releases with representatives from DNR's Jefferson City Regional Office, in meetings (and a during a plant inspection) preceding re-issuance of the permit. All were approved. As a result, testing was not conducted to evaluate the presence of non-storm water discharges (as they exist and have been previously characterized and evaluated). Thus, this application does not contain the typically applicable "non-storm water source certification" (per EPA Form 2F, Item V).

We hereby request continued allowance for releases from these sources (described below), consistent with DNR's earlier interpretation. The sources include:

1. Potable water - infrequent flushing and/or drainage of potable water lines for repairs or maintenance to the system.
2. Firewater - quarterly flushing from 40 connections required for testing and maintenance of the firewater system. Note that we treat the firewater system with a biostat, a biopenetrant and a scale inhibitor. This treatment program is designed to control microbiologically influenced corrosion to ensure integrity as required by the American Nuclear Insurers and the Nuclear Regulatory Commission. Quarterly flushes will discharge less than 50,000 gallons total. Based on the expected concentrations and aquatic toxicity data, we do not believe there are any significant effects on the storm water runoff settling ponds from these releases. Once per three years, the entire system including the tanks, must be flushed, releasing 700-800,000 gallons. Treatment chemicals are not added for a time prior to these flushes in order to ensure that residuals are very low (due to consumption within the system).

3. **Manhole Pump-Outs** - numerous manholes (providing access to instrumentation, piping, cables, etc.) at the plant are periodically pumped out, to remove accumulated storm water. In order to address questions regarding possible contamination due to galvanized metal corrosion, a testing program was conducted and the analytical results shared with DNR. The testing indicated that zinc concentrations were reduced significantly by maintaining water levels below galvanized supports (i.e. routine pump-outs). During 2012 we notified DNR that automatic pumping capability would be installed in several electrical manholes. Note that water is not pumped to the storm water conveyance if an oil sheen exists or if the pH is not between 6 and 9 (which would be indicative of a spill or leak).
4. **Eye wash / Safety Shower Discharges** - Releases are made from routine testing and/or emergency use of these outdoor facilities.
5. **Demineralizer Water / Essential Service Water (ESW)** - during outages and other equipment maintenance activities, it is sometime necessary to provide temporary hoses to supply water to equipment. When these hoses are disassembled, residual water is released locally.
6. **Air Conditioning Condensate** - condensate from various building intake air cooling units is routed to building roof drains and/or to local area surfaces which in turn contribute to various storm water outfalls.

The following table provides non-storm water plant related sources potentially discharged from conventional storm water drainage.

Outfall	Non-Stormwater Sources
010	<ul style="list-style-type: none"> • Fire water test (1000 gal/qtr) • Manhole discharges (10,000 gal/mo) • Eye wash/showers • ESW (<500 gal/event) • Unit 2 Basin discharge - accumulated SWR (2.7 MG/dewatering event)
011	<ul style="list-style-type: none"> • Fire water test (24,000 gal/qtr) • Fire water tank drain (800,000 gal/3yrs) • Manhole discharges (15,000 gal/mo) • Eye wash/shower • Air conditioning condensate • ESW (<500 gal/event)
012	<ul style="list-style-type: none"> • Fire water test (11,000 gal/qtr) • Manhole discharges (70,000 gal/mo) • Air conditioning condensate • ESW (<500 gal/event)
014	<ul style="list-style-type: none"> • Fire water test (17,000 gal/qtr) • Air conditioning condensate
015	None

Plant Modifications

Alternate Electric Power Supply – Four additional emergency diesel generators were installed during 2010 to provide additional backup power for the plant. These diesel generators are located adjacent to Highway CC south of the existing COOP substation.

Modifications to the Missouri River loading dock and haul road were completed during 2012 for receipt of four new main transformers. Existing transformers were replaced with new main transformers during Refuel 19 spring 2013.

Required security upgrades were made to the existing storm water culverts and manholes during 2012-2013.

Main Transformers – Four new transformers were brought on-site (fall 2012) to replace the existing main transformers during Refuel 19 (spring 2013). The four original transformers are expected be shipped off-site for disposal within approximately 12 months.

The reactor vessel head will be replaced during Refuel 20 scheduled to take place fall 2014. In addition, a temporary storage facility will be constructed on-site to store and provide a special environment to house this component for several months prior to the replacement.

Independent Spent Fuel Storage Installation (ISFSI) Facility – Callaway intends to construct a dry cask spent fuel storage facility on-site by the end of 2014. As part of this project a haul road was constructed to move earthen fill material to and from a material laydown area to the Unit 2 excavation in preparation for the new spent fuel storage area. Beginning during the summer of 2013, bottom sediment will be removed from the existing Unit 2 excavation in preparation for installing native clay fill for the foundation of the ISFSI facility. A land disturbance permit will be needed to begin this project. Concrete will also be poured for the foundation and around the in-ground storage containers covering a 160 X 108 foot storage pad for the first storage area. Additional concrete pads will be completed for future storage areas as needed. In addition, a concrete haul road will be constructed from the fuel building to the storage pad and a storage/support building will also be constructed in this area.

Additional Sedimentation Lagoons – During the next few years, Callaway is expecting to construct one or two additional sedimentation lagoons adjacent to the existing water treatment sedimentation lagoons. These lagoons contain mainly Missouri River solids. There are currently four lagoons or cells being utilized. Clarified river water is used for plant cooling water in the service water and circulating water systems with the river solids removed being collected in sedimentation lagoon #4. This lagoon also receives waste water from the oily waste separator system and demineralizer waste collected in the equalization basin. Sedimentation lagoon #3 collects waste water from the demineralizer waste sump which cascades into sedimentation lagoon #4. The other two initially constructed lagoons have been converted to wetlands for final polishing of the sewage treatment plant effluent. The two currently operating sedimentation lagoons are expected to reach capacity within the next 1-3 years. Prior to beginning construction of any additional treatment lagoons, Ameren plans to apply for a construction permit with the state of Missouri Department of Natural Resources. All effluents from the existing lagoons are currently recycled to the head of the water treatment plant as they have been for the past 15 years.

Potential Construction of an Additional Unit

Callaway has begun the initial planning and preparations for building Small Modular Reactors (SMRs). At this time, no final decision has been made on building these additional units. However, if this project moves forward and is approved, it is anticipated that some initial construction may begin during the next two to five years. This will include clearing and excavation of an equipment laydown area north of and adjacent to the current plant site.

Significant Leaks and Spills

On October 2, 2012 a significant leak occurred from the neutralization tank to the surrounding gravel area. Approximately 3,000 gallons of pH 1.9 water spilled to the ground. The remainder of the tank contents was routed to the equalization basin to prevent further leakage to the surrounding area. Samples collected from the sedimentation lagoons, storm drains and ground near the neutralization tank following the event showed acceptable pH levels. This leak was reported to the National Spill Response Center, the Missouri Department of Natural Resources and the Nuclear Regulatory Commission at that time.

No other significant spills (meeting the criteria set forth in the regulations) have occurred at Callaway Energy Center, in the last three years.

ATTACHMENT K
Requests for Modification of Current Permit Conditions

Elimination of the Five Year Wet Test for Outfall 001 and 016

All WET tests conducted during the past five years as required by the current Callaway NPDES Permit have passed with no issues identified. Because Liquid Radwaste (Outfall 001) and Cooling Tower Bypass (Outfall 016) flows are intermittent and discharge volumes released from each is normally a small fraction of the overall plant discharge flow, we request consideration be given to eliminating one or both of these WET test requirements.

Discharges from Outfall 001 occur on average about once per week during normal operation with a flow rate of 250 gpm during the discharge with a tank being released in approximately 6 hours. Cooling tower blowdown dilution flow is maintained at greater than 5,000 gpm during this discharge. In addition, because Outfall 001 may contain a very small concentration of radioactive material, this WET test sample must be sent to an environmental laboratory which has obtained a license to receive radioactive material. At this time a laboratory has not been located that can conduct the required Acute WET test for Outfall 001 and has obtained the required license to receive radioactive material. ABC Laboratories, Inc. conducted this test during 2009 (the last five year Acute WET test for Outfall 001) and has informed Ameren they will no longer perform this analysis.

Outfall 016 is operated intermittently approximately once per day for approximately 3 to 4 hours. The flow rate varies but ranges from 1000-4000 gpm when operating. The average flow rate is near 0.80 MGD although many days of the year this outfall is not operated at all.

Continued Use of BMPs for Storm Water Outfalls

Each storm water outfall (010, 011, 012, 014, and 015) is designated and described as the discharge from a settling pond. These ponds were built to manage water quality from storm water runoff during the original Plant construction. They remain in our present permit both as artifacts of their original intended use and because a portion of the drainage into each pond includes buildings, plant yards and other amenities which meet the definition of an Industrial Facility under federal storm water regulations (40CFR Part 122.26). While these ponds continue to provide effective sedimentation treatment for all storm water routed through them, the quality of storm water runoff from the "Industrial Activities" portion of the site is maintained largely through the effective use of Best Management Practices (BMPs). These include: vegetated yards and swales, protected inlets and other conveyances, stable grade controls, general maintenance, routine housekeeping, and use of temporary controls during non-routine land disturbance activities. Routine monitoring of these storm water outfalls was required for many years and the data collected demonstrated consistent compliance with the permit limits (for both pH and oil & grease). We believe that continued management of these outfalls using BMPs will provide protection for these effluent streams.

Please note that land disturbance activities beyond those associated with routine operations at Callaway Energy Center are individually evaluated and when appropriate, separate Land Disturbance permit applications made.